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A

MONOGRAPH

OF

ORIENTAL CICADIDÆ.

BY

W. L. DISTANT

FELLOW OF THE ENTOMOLOGICAL SOCIETIES OF LONDON, BELGIUM, FRANCE, AND STOCKHOLM;
AUTHOR OF 'RHOPALOCERA MALAYANA,' 'A NATURALIST IN THE TRANSVAAL,' &c.

WITH FIFTEEN PLATES, AND WOODCUTS.

Published by Order of the Trustees

of the

Indian Museum,

Calcutta.

Landor despised Entomology, yet, in the same breath, said, "the sublime was in a grain of dust."—Emerson, '*English Traits.*'

LONDON:—PRINTED BY WEST, NEWMAN & CO.

AND SOLD BY

LONDON:—H. S. KING & CO., 65, CORNHILL; AND E. W. JANSON, 35, LITTLE RUSSELL ST., BLOOMSBURY.
CALCUTTA:—AT THE INDIAN MUSEUM; AND THACKER, SPINK & CO.
BERLIN:—R. FRIEDLANDER & SOHN.

1889—1892.

SMITHSONIAN INSTITUTION
332956
NOV 20 1946
NATIONAL MUSEUM

To the Memory of

THE LATE

E. T. ATKINSON, B.A.,

ACCOUNTANT-GENERAL OF BENGAL;

PRESIDENT OF THE BOARD OF TRUSTEES OF THE INDIAN MUSEUM, CALCUTTA;

AUTHOR OF MANY PAPERS ON INDIAN RHYNCHOTA;

AND

Promoter of the Publication of this Monograph,

I DEDICATE THE SAME.

PREFACE.

At the request and by the liberal enterprise of the Trustees of the Indian Museum—much influenced by my late friend Mr. E. T. Atkinson—I have in the following pages attempted the monographic revision and description of the Oriental species of the Homopterous Family Cicadidæ.

The limits of the fauna thus studied have already been defined at page 2, and over this large area our knowledge of such a little-collected family as the Cicadidæ must necessarily be fragmentary and of a very unequal character. Nevertheless I have been able to study a very great deal of the material which already exists. The fine collection of these insects belonging to the Indian Museum at Calcutta has passed through my hands, and I have examined all the specimens in the collection of the late Mr. E. T. Atkinson. I have also had submitted to me for identification the whole of the Oriental species in the Brussels Museum;* the Celebesian specimens collected by Dr. Meyer, and now in the Dresden Museum; the very fine material in the Genoa Museum,† including the collection made by Fea in Tenasserim and Upper Burma, by Beccari in several islands of the Malayan Archipelago, and by D'Albertis in New Guinea; the rich Cicadan possessions in the Leyden Museum,‡ including the captures made in Java and Sumatra by Hagen, Van Lansberg, and the Sumatran Expedition, have been placed at my disposal to aid this work; §and I have also had a loan of the private collections of the late Dr. Signoret, Mr. F. Moore, and Mr. F. Pascoe. I have naturally had ready access to the British Museum, without which nothing could have been attempted in the unravelling of the types made by the late F. Walker, and our national collection is not only rich in Indian species, but contains nearly all the Cicadan results of Mr. Wallace's memorable visit to the Malayan Archipelago. My own collection includes the captures made by Dr. Leith in Bombay, A. W. Chennell in Assam, G. T. Hampson in the Neelgiri Hills, myself in the Malay Peninsula, H. O. Forbes in Java and Sumatra, Carl Bock in Sumatra and Borneo, Baron Von Hügel in Java, W. Doherty in Assam, Burma, Perak, Borneo, and the eastern islands of the Archipelago, J. Whitehead on the Kina Balu Mt., Capt. Bingham in Burma, Geo. Lewis and H. J. S. Pryer in Japan, W. B. Pryer in North

* For which I was indebted to M. Preudhomme de Borre.

† Through the kindness of the Marquis Doria and Dr. Gestro.

‡ I cannot help recording, and with scientific appreciation and gratitude, the facilities I have been afforded by Continental Museums, to improve this and other works I have been engaged on, by the loan of specimens, always cheerfully and readily granted. I cannot give Continental workers the assurance of similar assistance from our National Institution, for by the rules of the British Museum, a specimen once deposited there never leaves the portals of its zealously-guarded doors.

§ By the good offices of Dr. C. Ritsema.

Borneo, and part of the collection made by A. E. Pratt in China.* I have also been allowed to see most of Stål's Philippine and Indian types in the Stockholm Museum.†

Referring to my own unpublished Catalogue, about 82 genera, and 720‡ species of Cicadidæ are now known to Science, and of these I have been able to include 34 genera and 268 species in this fauna, a doubtless insufficient number for many parts of the area, especially for China and New Guinea, though we may consider our knowledge of the genera and species found in Continental India as much more satisfactory.

Of the life-histories of these interesting insects we can only glean scattered records. At page 1, reference has been made to most of the published information respecting the structural details of the wonderful sound-producing organs of the males. The volume of sound emitted by these organs has impressed travellers and naturalists in all parts of the world, and we meet with many references to it in zoological literature and in works of travel and adventure. The time of day when the males give forth their shrill and unmelodious sounds probably varies with different species and in different localities. In Nicaragua, Belt "found them loudest towards sunset, keeping up their shrill music until it is taken up by night-vocal crickets and locusts."§ In Australia, "during rain, these insects are silent; but re-commence their clamour on the re-appearance of fine weather."‖ In South Brazil, Bigg-Wither, referring to a dominant species, states that he does not remember ever hearing "its shrill whistle excepting during the three months of September, October, and November."¶ In the Transvaal, according to my own experience, *Platypleura divisa* has an equally restricted time of appearance and song, commencing in November, after the arrival of the rains. In the North of Italy, Swinton noticed that the males of *Cicada plebeja* and *Tibicen hæmatodes* "sing on the summit of brushwood at an elevation varying from ten to twelve feet," while *Tettigia orni* "will ascend the poplar trunks to a much greater height" for the same purpose.** In Brazil, Mr. Jones describes a species as making a noise equal to the whistle of a locomotive. "Indeed so remarkable is the resemblance that once or twice since I have returned to England I have suddenly been recalled to the tropical groves by the sound of an extra shrill railway whistle at a distance."†† Perhaps the most picturesque description of this sound is given by Prof. McCoy, referring to an Australian species, *Psaltoda mœrens*. It is described as producing "almost a deafening sound from the numbers of the individuals in the hottest days, and the loudness of their noise; which beginning with a prolonged high-toned whir like that of a knife-grinder, or the letter R loudly prolonged in a high pitch, continued for a minute or two, breaks into a series of diminuendo 'squawks,' like that of a frightened duck in a farm-yard, loud enough to be heard some hundred yards off, and stunning our ears with the shrilling and squalling. This kept up with 'damnable iteration,' as Falstaff says, by hundreds of individuals all day long, would tax the patience of a saint, if such existed in Australia."‡‡

The Cicadan song is clearly of a sexual nature, the sound-producing organs being only

* Presented to me by Mr. J. H. Leech, the promoter of the expedition. † By the favour of Dr. C. Aurivillius.

‡ This does not include the whole of Walker's descriptions, and leaves a few yet undetermined to be of synonymic or specific value. The tabulation, however, may be taken as approximately correct.

§ 'The Naturalist in Nicaragua,' p. 312. ‖ Bennett, 'Wanderings in New South Wales,' vol. i. p. 237.

¶ 'Pioneering in South Brazil,' vol. i. p. 297. ** 'Insect Variety,' p. 222.

†† 'Yorkshire Naturalist' (2), ix. pp. 129-30 (1884). ‡‡ 'Prodromus Zoology—Victoria,' v. pp. 53, 54 (Dec., 1880).

developed in the male sex. A recent writer has affirmed that the song of the *Cicada* is appreciated by other orders of insects. According to this observer—whose name is not mentioned by the narrator—in Natal, when a species is singing its loudest, it is often surrounded by numbers of a lace-wing fly" (*Nothochrysa gigantea*).* The song is suspended when the insect is alarmed, as in the Transvaal, where, when a tree has almost vibrated with the screeching noise, I have produced complete silence by standing amidst its branches.

We know nothing of the mental concepts of these beautiful insects. The writer is not a Cartesian, and does not estimate even the Cicadidæ as living automata. The "life-histories" of insects may include their embryological stages, with an exhaustive knowledge of their structure, their classification in zoological sequence, their geographical distribution, the protective or mimetic resemblances by which they often survive the terrors of a struggle for existence, their duration and habits of life, their food and times of appearance, and yet, little as this knowledge can be said to exist regarding many insects, the veil is no more lifted which hides their—probably limited—thoughts and feelings, than those of the inhabitants of a Kafir kraal are known to the vulture soaring above them. The psychology of insects is practically undreamed in the philosophy of entomologists. If, as has been truly remarked, with ears sufficiently attuned and capable, we might hear the roar of the atoms which environ us, how much more might we long to have a sympathetic insight into the ideas, fears, and concepts of the living mass of creatures of which we form so small a part.† I have recently hazarded the opinion, though upon very limited observation, that at least a species of African *Platypleura* may pair for life in the mature development.‡ If reason and intelligence are, and must be, allowed to ants, termites, bees, and even wasps and spiders, surely it is only our ignorance that prevents the recognition of some form of the same qualities in the Cicadidæ. Although Entomology has made such strides, and so many thousands of insects are now fully described, catalogued, and often figured, yet to their inner lives we are "strangers yet."

The Cicadidæ appear to be one of the most non-protected family of insects, and are the victims of most predacious creatures. The instances that can be quoted probably only give an idea of the way their numbers are thinned by numerous enemies, while the list of those enemies is at present very incompletely known.§ They probably largely fall a prey to birds. In Nicaragua, Belt has described how during April, when the Cicadas are particularly plentiful,

* 'Nature Notes,' August, 1891.

† Dr. Mivart has lately re-affirmed his belief that the psychical powers of brutes are limited to sense perception, and give no evidence of the possession of the higher faculties of ideation and conception ('Essays and Criticisms'); but the proof is absent, and though reasonable the statement does not carry more conviction than some theological propositions. On the other hand, Count Goblet d'Alviella truly remarks, when discussing the question of 'Religion in Animals':—"A century ago such a question would only have provoked a smile; but now that we have accustomed ourselves to search in the lowest strata of animal life for the antecedents of physiological and intellectual characteristics which only receive their full expression in the best-endowed representatives of human culture, it is no longer possible to dismiss the question of the religion of animals in this summary style. Animals share the philosophic fate of savages. They are alternately exalted and humbled, according to the exigencies of the current theory as to the position of man in nature" (Hibbert Lectures, 1891, p. 49). Westermarck, in his great work, 'The History of Human Marriage,' goes back to the precursors of man in his study of the origin of that institution, and a course he forcibly affirms (p. 9) is "the only one which can lead to the truth, but a path which is open to him alone who regards organic nature as one continued chain, the last and most perfect link of which is man."

‡ 'Naturalist in the Transvaal,' p. 67.

§ A few of the following notes I published in my description of the Central American Cicadidæ in the 'Biologia Centrali Americana.'

"individuals are often seen whose bulky bodies have been bitten off from the thorax by some bird; and the large and graceful Swallow-tailed Kite at that time feeds on nothing else. I have seen these Kites sweeping round in circles over the tree-tops, and every now and then catching insects off the leaves, so that on shooting them I have found their crops filled with Cicadidæ."* In New Zealand, *Melampsalta cingulata* is destroyed in enormous quantities by the "ordinary house sparrow," and Mr. Hudson, who records the fact, also remarks that he does not think the species can, from this cause, "long remain abundant in the neighbourhood of our larger towns."† The same thing has occurred in North America, where *Tibicen septemdecim* was also attacked by *Passer domesticus*, "and so ravenously and persistently does this bird pursue its food, that the ground is strewn by the wings of the unfortunate Cicada wherever these have been at all numerous."‡

They are not spared by other insects. The eggs of an European species are stated by Réaumur to be attacked by the larvæ of an ichneumon.§ In South-East Africa the perfect insects are devoured by Mantidæ. Mrs. Monteiro found "a large green Mantis holding an unfortunate Cicada, from which it had already bitten one eye, and part of the head; the poor thing—a male . . . .—making its loud stridulating noise all the time."‖ In the Transvaal, as I have elsewhere recorded, I found a species of *Platypleura* (*P. divisa*) was captured and eaten by spiders. "On once hearing a particularly loud chorus from a peach-tree, I visited the same to capture specimens, and found that spiders had industriously spread their webs between the branches, and remains of the *Platypleuræ* were suspended in a more or less devoured condition."¶ In the neighbourhood of Candahar a writer who records a wonderful congregation of Cicadidæ, also states, "The only enemies they appeared to have were some large dragon-flies, which pounced upon them and carried off what appeared to be double their own weight."** Hornets swell the list of insect-foes. Herr Schlüter, in Texas, saw a Cicada of "exceptional size" attacked by a hornet, killed, and actually carried away by its much smaller destroyer.†† They are also subject to fungoid growths. Mr. Peck describes a fungus developed on the abdomen of *Tibicen septemdecim*, which, though not immediately fatal to the insect, manifestly incapacitates it for propagation.‡‡

The peculiarities in the geographical distribution of the species described in this volume are best understood by a reference to the following systematic list, in which the range of all the species is comparatively scheduled. It will thus be seen that in the extreme west of our region the genus *Cicadatra* just enters as a Palæarctic representative, whilst in the most eastern portion of our area the genera *Prasia* and *Acrilla* are allied to the distinctly Australian genera *Cystosoma* and *Chlorocysta*. This helps to prove the Cicadan homogeneity of our faunistic area, which embraces all the known species of the genera *Polyneura*, *Angamiana*, *Tacna*, *Graptopsaltria*, *Toscna*, *Leptopsaltria*, *Dundubia*, *Pomponia*, *Psithyristria*, *Cryptotympana*, *Gavana*, *Talainga*, *Graptotettix*, *Huechys*, *Scieroptera*, *Mogannia*, *Kamalata*, *Rustia*, *Karenia*, *Emathia*, *Calcagninus*, *Terpnosia*, *Prasia*, *Baturia*, and *Acrilla*. Thus, according to present knowledge,

* 'Naturalist in Nicaragua,' p. 230.
† Trans. New Zealand Instit. vol. xxiii. p. 50 (1890).
‡ Riley, 'Science,' v. p. 521 (1885).
§ Quoted by Westwood, 'Modern Classif. Ins.' vol. ii. p. 425.
‖ 'Delagoa Bay,' p. 188.
¶ Distant, 'Naturalist in the Transvaal,' p. 67.
** J. A. S. Beng. vol. ix. p. 441 (1840).
†† Büchner, 'Mind in Animals,' Mrs. Besant's Translat. p. 297.
‡‡ 'Annual Report on the New York Museum of Natural History for 1878.'

twenty-five out of our thirty-four genera are wholly restricted to the fauna; whilst we may almost say the same of three other genera, *Cosmopsaltria*, *Gymnotympana*, and *Lembeja*. In many cases, therefore, this is a generic as well as a faunistic monograph, but it is not likely to possess that exhaustive character with many of the above genera, when the Cicadidæ of the Pacific Islands are better known. Our western limit being on the border of the Palæarctic region proves a moderately sharp faunistic divisor; but in the east we artificially closed the Malayan Archipelago at New Guinea, and this is certainly not a line of faunistic cleavage. In the Cicadidæ, Japan does not exhibit a Palæarctic facies, but has true Oriental affinities; of China our knowledge is so limited and so partial that nothing can with confidence be said on the subject.

In preparing a monograph of a group of exotic insects, the writer becomes aware as the more thoroughly he strives to do his work, of the initial character of such undertakings.* Collectors, no doubt, will largely add to the number of species to be included in this fauna, and also show a wider distribution of the species already enumerated. Fresh observations on the habits of these insects must necessarily accumulate with time. The permanence of the classification here adopted and pursued is neither claimed nor expected. In fact, it would be taking a very pessimist view of the future progress of Entomology, if our present artificial and arbitrary classificatory systems were anticipated to survive the exigencies of museum arrangement, and our present limited knowledge. Embryological conditions, considered on evolutionary principles, must be the guide in framing our future natural systems, showing the sequence of Families, Genera, and Species; the embryology of the Cicadidæ is at present practically unknown. The monographist of to-day can only prepare the material to be dealt with in a future biological era by students trained on wider principles, and living in a philosophical conception of life less narrow than that now so generally popular. It is only about thirty years since the publication of the 'Origin of Species;' judging from what has already taken place, what may not be expected at the end of another similar period? I thus feel that, though I found our knowledge of the Cicadidæ in a somewhat chaotic condition, I only leave it in *artificial* order, and may, metaphorically, exclaim, "Order reigns in Warsaw." I will only add—if I may do so without presumption—to those who use this monograph, that he who criticises does well; he who corrects does better; and he who adds to our knowledge does better still.

I must again bear witness to the faithful work of my artist, Mr. Horace Knight, who has illustrated this publication, as he did my 'Rhopalocera Malayana.' I think the entomological artist does not always receive his proper value. How often he makes possible a bad description!

* It was one of the sayings of the late well-known British zoologist, Fredk. Bond, "that a naturalist ought to have three lives—seventy years to collect, seventy to study his collection, and seventy to impart his knowledge to others."—'Entomologist,' vol. xxii. p. 266.

Purley, Surrey,
August, 1892.

SYSTEMATIC LIST OF GENERA AND SPECIES DESCRIBED IN THIS MONOGRAPH, SHOWING OUR PRESENT KNOWLEDGE OF THE GEOGRAPHICAL DISTRIBUTION OF SAME.

	Subfam. CICADINÆ.	Tab. & Fig.		Page	CONTINENTAL *										INSULAR *										
					India	Burma	Tenasserim	Malay Peninsula	China			Other Localities			Ceylon	Sumatra	Java	Borneo	Philippines	Celebes	Moluccas †	New Guinea	Japan	Other Localities
1.	Pœcilopsaltria bufo	vii.	20	5	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
2.	,, cancscens	viii.	18	6	...	...	...	...	...	.	.	.	.	.	...	0	...	...	...	...	0	...	...	Aru
3.	,, calypso	x.	3	6	...	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	Christmas Island
4.	,, polita	i.	16	7	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
5.	,, cervina	v.	12	8	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
6.	,, basi-viridis	ix.	6	8	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
7.	,, basialba	viii.	19	9	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
8.	,, subrufa	i.	1	9	0	...	...	...	...	.	.	.	.	.	0	...	...	...	...	...	...	...	...	
9.	,, octoguttata	i.	5	10	0	...	...	...	...	.	.	.	.	.	0	...	...	...	...	...	...	...	...	
10.	,, hampsoni	i.	8	11	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
11.	,, cœlebs	i.	12	12	0	...	...	...	0	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
12.	,, nicobarica	i.	3	12	...	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	Nicobar Islands
13.	,, fulvigera	i.	2	13	...	...	...	...	...	.	.	.	.	.	...	...	...	...	0	0	...	...	...	
14.	,, sphinx	viii.	16	13	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
15.	,, semusta	i.	10	14	...	...	...	...	0	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
16.	,, westwoodi	i.	18	15	...	...	...	...	...	.	.	.	.	.	0	...	...	...	...	...	...	...	...	
17.	,, hilpa	i.	6	15	...	...	...	...	0	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
18.	,, ciliaris	i.	4	16	...	...	...	...	...	Cochin China			.	.	...	...	...	...	0	...	0	...	...	
19.	,, andamana	i.	9	17	...	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	Andaman Islands
20.	,, affinis	.....	.....	18	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
21.	,, capitata	.....	.....	18	...	...	...	...	...	.	.	.	.	.	0	...	...	...	...	...	...	...	...	
22.	Platypleura repanda	i.	7	19	0	0	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
23.	,, kæmpferi	i.	14	20	...	...	...	...	0	.	.	.	.	.	...	...	...	...	...	...	...	...	0	
24.	,, nobilis	i.	13	21	0	...	...	...	...	.	.	.	.	.	...	0	0	...	...	...	...	...	...	
25.	,, insignis	i.	15	22	...	...	0	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
26.	,, badia	vii.	15	23	...	...	0	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
27.	Polyneura ducalis	ii.	7	23	0	0	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
28.	Angamiana ætherea	xiii.	1	100	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
29.	Tacna speciosa	ii.	9, 10	24, 154	...	...	...	...	...	.	.	.	.	.	...	0	0	0	...	...	...	...	...	Penang
30.	Graptopsaltria colorata	ii.	8	25	...	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	0	
31.	Tosena mearesiana	ii.	3	26	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
32.	,, fasciata	ii.	1, 2	26	...	...	...	...	...	.	.	.	.	.	...	0	0	0	...	...	0	...	...	
33.	,, melanoptera	ii.	5	27	0	0	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
34.	,, montivaga	xiii.	6	28	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
35.	,, depicta	iii.	11	28	...	...	...	...	...	.	.	.	.	.	...	...	...	0	...	...	...	...	...	
36.	,, dives	iii.	10	29	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
37.	,, sibylla	ix.	9	29, 154	...	...	...	0	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
38.	,, splendida	ii.	6	30	0	0	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
39.	Leptopsaltria quadrituberculata	viii.	6	31, 154	...	...	...	0	0	.	.	.	.	.	...	...	0	...	0	...	...	...	...	
40.	,, mascula	x.	1	32	...	...	...	...	...	.	.	.	.	.	...	...	...	0	...	...	...	...	...	
41.	,, sania	viii.	11	32	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
42.	,, albistigma	x.	15	33	...	...	...	...	0	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
43.	,, nebulinea	viii.	17	33	...	...	...	...	...	.	.	.	.	.	...	0	...	0	...	...	...	...	...	
44.	,, andamanensis	x.	12	34	...	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	Andaman Islands
45.	,, tuberosa	viii.	7	34	0	...	...	...	...	.	.	.	.	.	...	...	0	...	...	...	...	...	0	
46.	,, pryeri	viii.	12	35	...	...	...	...	...	.	.	.	.	.	...	...	...	0	...	...	...	...	...	
47.	,, tigrina	x.	6	35	0	...	...	0	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
48.	,, tigroides	xii.	18	35	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
49.	,, albiguttata	viii. / x.	8 / 4	36	...	...	...	0	...	.	.	.	.	.	...	0	0	...	...	...	...	...	...	
50.	,, carmente	viii.	2	37	...	...	...	...	...	.	.	.	.	.	...	...	0	0	...	...	...	...	...	
51.	,, barbosæ	v.	14	37	...	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	Sulu Islands
52.	,, guttularis	xii.	20	37	...	0	...	...	...	.	.	.	.	.	...	...	...	0	0	...	...	...	...	
53.	,, morrisi	xv.	19	101	0	...	...	...	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	
54.	Dundubia mannifera	iv.	17, 10	39	0	0	0	0	0	.	.	.	.	.	...	0	0	0	0	0	...	...	...	Sinkep Island
	Var.	xii.	1	39	0	...	...	0	...	.	.	.	.	.	...	...	...	...	...	...	...	...	...	

* The way in which the terms "Continental" and "Insular" are understood in this work, has been already explained in a footnote to page 24.

† In these Islands are included Gilolo, Ceram, Bouru, Batchian, Morty, Obi, Ké, Timor-laut, Amboyna, Ternate, Tidore, Kaioa, and Banda (Wallace 'Malay Archipelago,' chap. xxvii.).

		Tab. & Fig.	Page	CONTINENTAL							INSULAR								
				India	Burma	Tenasserim	Malay Peninsula	China		Other Localities	Ceylon	Sumatra	Java	Borneo	Philippines	Celebes	Moluccas	New Guinea	Japan	Other Localities
55. Dundubia	rufivena	vi.	6	40	...	...	...	0	...	. . . . .	...	0	0	0	...	...	0	...	...	Nias Island, Sumbawa
55*a*. ,,	mellea	xii.	9	40	...	...	...	...	...	. . . . .	...	...	...	0	...	...	...	...	...	
56. ,,	locusta	ix.	1	41	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
57. ,,	rafflesii	iv.	4	41	...	...	...	...	...	. . . . .	...	...	0	...	...	...	...	...	...	
58. ,,	emanatura	viii.	3	41	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
59. ,,	? ærata	vi.	7	42	...	...	...	...	...	. . . . .	...	...	...	0	...	...	...	...	...	
60. ,,	intemerata	iv.	1	42	0	...	0	0	...	. . . . .	...	...	...	...	...	...	...	...	...	
61. Cosmopsaltria	amicta	viii.	4	43	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
62. ,,	nagarasingna	iv.	14	44	...	0	0	...	...	Cochin China . .	...	...	...	...	...	...	...	...	...	
63. ,,	larus	v. 1 / iv. 13	44	0	...	...	...	...	...	. . . . .	0	...	...	...	...	...	...	...	...	
64. ,,	bocki	iv.	11	45	...	...	...	...	...	. . . . .	...	0	...	...	...	...	...	...	...	
65. ,,	similis	v.	10	45	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
66. ,,	oopaga	v.	9	46	...	0	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
67. ,,	andersoni	v.	6	46	...	...	0	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
68. ,,	jacoona	v.	3	47	...	...	...	0	...	. . . . .	...	...	...	0	...	...	...	...	...	
69. ,,	feæ	xv.	20	101	...	0	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
70. ,,	majuscula	vii.	8	47	...	...	...	...	...	. . . . .	...	...	...	...	...	0	...	...	...	
71. ,,	latilinea	iv.	15	48	...	...	...	0	...	. . . . .	...	...	...	...	...	...	...	...	...	
71*a*. ,,	lauta	v.	8	48	...	...	...	...	...	. . . . .	...	...	...	0	...	...	...	...	...	
72. ,,	montivaga	xii.	12	49	...	...	...	...	...	. . . . .	...	...	...	0	...	...	...	...	...	
73. ,,	inermis	vi.	15	49	...	...	...	...	...	. . . . .	...	...	...	...	0	...	...	...	...	
74. ,,	fuliginosa	vi.	16	50	...	...	...	...	...	. . . . .	...	...	...	...	0	...	...	...	...	
75. ,,	vibrans	iv.	2	50	0	...	...	0	...	. . . . .	...	...	...	...	...	...	...	...	...	
76. ,,	meyeri	viii.	5	51	...	...	...	...	...	. . . . .	...	...	...	...	...	0	...	...	...	
77. ,,	nigra	vi.	9	51	...	...	...	...	...	. . . . .	...	...	...	...	0	...	...	...	...	
78. ,,	flavida	v.	15	52	...	...	...	...	...	. . . . .	...	0	0	...	...	...	...	...	...	
79. ,,	spinosa	iv.	7	52	...	...	...	0	...	. . . . .	...	0	...	0	0	...	...	...	...	
80. ,,	umbrata	v.	11	53	0	0	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
81. ,,	radha	iv.	9	54	0	0	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
82. ,,	saturata	v.	17	54	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
83. ,,	ficulnea	xv.	21	102	...	0	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
84. ,,	tavoyana	v.	4	55	...	0	0	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
85. ,,	tripurasura	iv.	8	55	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
86. ,,	durga	iv.	6	56	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
87. ,,	opalifera	v.	2	56	...	...	...	...	...	Corea . . .	...	...	...	...	...	...	...	...	0	
88. ,,	microdon	iv.	16	57	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
89. ,,	nicomache	iv.	12	57	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
90. ,,	minahassæ	vi.	17	58	...	...	...	...	...	. . . . .	...	...	...	...	...	0	0	...	...	
91. ,,	sita	iv.	5	58	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
92. ,,	diminuta	xii.	14	59	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
93. ,,	doryca	vii.	1	59	...	...	...	...	...	. . . . .	...	...	...	...	...	...	...	0	...	
94. ,,	lata	vii.	4	60	...	...	...	...	...	. . . . .	...	...	...	...	...	...	0	...	...	
95. ,,	capitata	vii.	6	60	...	...	...	...	...	. . . . .	...	...	...	...	...	...	...	0	...	Aru & Salwatty Islands
96. ,,	serva	ix.	3	60	...	...	...	...	...	Corea . . .	...	...	...	...	...	...	...	...	...	
97. ,,	spathulata	vi.	3	61	...	...	...	...	...	. . . . .	...	...	...	...	0	...	...	...	...	
98. ,,	operculissima	v.	5	61	...	...	...	...	...	. . . . .	...	...	...	0	...	...	...	...	...	
99. ,,	mongolica	iv.	3	62	...	...	...	...	0	. . . . .	...	...	...	...	...	...	...	...	...	
100. ,,	silhetana	vi.	1	62	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
101. ,,	opercularis	v.	16	63	...	...	...	...	...	. . . . .	...	...	...	...	...	0	...	...	...	
102. ,,	lutulenta	vii.	7	63	...	...	...	...	...	. . . . .	...	...	...	...	...	...	...	0	...	
103. ,,	impar	x.	16	64	...	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	Waigiou
104. ,,	insularis	xi.	12	64	...	...	...	...	...	. . . . .	...	...	...	...	...	0	...	...	...	
105. ,,	albostriata	viii.	1	65	...	...	...	...	...	. . . . .	...	...	...	...	0	...	...	...	...	
106. ,,	chlorogaster	vii.	5	65	...	...	...	...	...	. . . . .	...	...	...	...	...	0	...	...	...	Santa Cruz Islands
107. ,,	gemina	vii.	3	66	...	...	...	...	...	. . . . .	...	...	...	...	...	0	...	...	...	Goram
108. ,,	recedens	x.	14	66	...	...	...	...	...	. . . . .	...	...	...	...	...	...	...	0	...	
109. ,,	junctivitta	x.	2	66	...	...	...	...	...	. . . . .	...	...	...	...	...	...	0	...	...	
110. ,,	obtecta	v.	13	67	...	...	...	...	...	. . . . .	...	...	...	...	...	...	0	0	...	Aru, Salwatty, & Duke of York Islands
111. ,,	pigafettæ	viii.	10	67	...	...	...	...	...	. . . . .	...	...	...	...	...	...	0	...	...	
112. ,,	phæophila	xii.	21	68	...	...	...	...	...	Corea . . .	...	...	...	0	...	...	...	...	...	
113. Pomponia	imperatoria	ix.	15	4 (fig. 1), 69	...	...	...	0	...	. . . . .	...	...	0	0	...	...	...	...	...	
114. ,,	fusca	vii.	10	70, 154	0	...	...	0	...	. . . . .	...	...	0	...	0	...	...	...	...	
115. ,,	japonensis	xv.	22	102	...	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	0	
116. ,,	græcina	x.	8	70	...	...	...	...	...	. . . . .	...	...	...	0	...	...	...	...	...	
117. ,,	lactea	vii.	18	71	...	...	...	0	...	. . . . .	...	0	...	...	...	...	...	...	...	
118. ,,	picta	vii.	11	71	...	...	...	...	...	. . . . .	...	0	...	...	...	...	...	...	...	
119. ,,	singularis	vi.	4	72	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
120. ,,	ransonneti	vii.	20	72, 102, 154	...	...	...	...	...	. . . . .	0	...	...	...	...	...	...	...	...	
121. ,,	evanescens	x.	13	72	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
122. ,,	pumila	xiii.	8	73	...	...	...	...	...	. . . . .	...	...	...	0	...	...	...	...	...	
123. ,,	viridimaculata	x.	9	73	...	...	...	...	...	. . . . .	...	...	...	0	...	...	...	...	...	
124. ,,	scitula	vii.	19	74	0	0	0	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
125. ,,	solitaria	vii.	17	74	...	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	Narkondam Island
126. ,,	promiscua	ix.	14	75	...	...	...	...	...	. . . . .	...	0	...	...	...	...	...	...	...	Engano
127. ,,	thalia	ix.	4	75	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
128. ,,	translucida	xiii.	7	76	...	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	Sulu Islands
129. ,,	bindusara	ix.	11	76	...	0	0	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
130. ,,	dohertyi	xiii.	9	77	0	...	...	...	...	. . . . .	...	...	...	...	...	...	...	...	...	
131. ,,	nigristigma	ix.	7	77	...	...	...	...	...	. . . . .	...	...	...	...	0	...	...	...	...	

		Tab. & Fig.		Page	CONTINENTAL						INSULAR									
					India	Burma	Tenasserim	Malay Peninsula	China	Other Localities	Ceylon	Sumatra	Java	Borneo	Philippines	Celebes	Moluccas	New Guinea	Japan	Other Localities
132.	Pomponia kama	vi.	12	78	0	...	...	...	...	. . .	...	...	0	...	...	...	...	...	...	
133.	„ pallidiventris	vi.	14	78	...	...	...	...	...	. . .	...	...	...	...	0	...	...	...	...	
134.	„ viridi-cincta	Woodcut, fig. 2		79	...	...	...	...	...	. . .	...	...	...	...	0	...	...	...	...	
		Tab. & Fig.																		
135.	„ expansa	vi.	13	79	0	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
136.	„ maculaticollis	vi.	11	80	...	...	...	...	0	. . .	...	...	...	...	...	...	...	...	0	
137.	„ obnubila	vi.	10	81	0	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
138.	Psithyristria specularis	Woodcut, fig. 3		82	...	...	...	...	...	. . .	...	...	...	...	0	...	...	...	...	
139.	„ crassinervis	„	„ 4	82	...	...	...	...	...	. . .	...	...	...	...	0	...	...	...	...	
140.	„ nodinervis	„	„ 5	83	...	...	...	...	...	. . .	...	...	...	...	0	...	...	...	...	
141.	„ tenuinervis	„	„ 6	83	...	...	...	...	...	. . .	...	...	...	...	0	...	...	...	...	
142.	„ simplicinervis	„	„ 7	83	...	...	...	...	...	. . .	...	...	...	...	0	...	...	...	...	
		Tab. & Fig.																		
143.	Cryptotympana fumipennis	xi.	4	84	...	...	...	...	...	Siam . .	...	0	...	...	...	...	...	...	...	
144.	„ accipiter	xiii.	10	84	...	...	...	...	...	. . .	...	...	...	...	0	...	...	...	...	
145.	„ diomedea	xi.	3	85	...	...	...	...	...	. . .	...	0	...	...	...	...	...	...	...	
146.	„ epithesia	xi.	5	85	...	...	...	...	...	. . .	...	...	...	0	...	...	...	...	...	
147.	„ aquila	xi.	9	85	...	...	...	0	...	Corea . .	...	0	...	0	...	...	...	...	...	
148.	„ mandarina	xi.	7	86	...	...	...	...	0	. . .	...	...	...	...	...	...	...	...	...	
149.	„ pustulata	xi.	10	86	...	...	...	...	0	. . .	...	...	...	...	0	...	...	...	0	
150.	„ corvus	x.	11	87	0	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
151.	„ intermedia	xi.	1	88	0	...	...	...	...	. . .	0	...	0	...	...	...	...	...	...	
152.	„ acuta	xi.	8	88	0	...	...	...	...	. . .	...	...	0	0	0	...	...	...	...	Timor
153.	„ demissitia	xiii.	11	89	...	...	...	...	...	. . .	...	0	...	...	...	...	...	...	...	
154.	„ recta	x.	10	89	0	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
155.	„ facialis	xi.	11	90	...	...	...	...	0	Siam . .	...	...	...	...	...	...	...	...	0	
156.	„ sinensis	xi.	6	90	...	...	...	...	0	. . .	...	...	...	...	...	...	...	...	...	
157.	„ insularis	xi.	2	91	...	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	Andaman Islands
158.	„ limborgi	x.	7	91	...	...	0	...	...	. . .	...	...	...	...	...	...	...	...	...	
159.	„ exalbida	xiii.	12	92	0	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
160.	„ tondana	xiii.	13	93	...	...	...	...	...	. . .	...	...	...	...	...	0	...	...	...	
161.	„ immaculata	.....		93	...	...	...	...	...	. . .	...	...	0	...	...	...	...	...	...	
162.	Cicada leechi	xiii.	2	94	...	...	...	...	0	. . .	...	...	...	...	...	...	...	...	...	
163.	„ bihamata	xii.	8	95	...	...	...	...	...	. . .	...	...	...	...	...	...	...	...	0	
164.	„ sinensis	xiii.	3	95	...	...	...	...	0	. . .	...	...	...	...	...	...	...	...	...	
165.	„ coronata	xii.	11	95	...	...	...	...	...	. . .	...	0	...	...	...	...	...	...	...	
166.	„ ochracea	xii.	13	96	...	...	...	...	0	. . .	...	...	...	...	...	...	...	...	...	Formosa
167.	„ tagalica	vi.	8	96	...	...	...	...	...	. . .	...	...	...	...	0	...	...	...	...	
168.	„ pontianaka	v.	7	97	...	...	...	0	...	. . .	...	0	0	0	...	...	...	...	...	Sulu Islands
169.	„ germana	vii.	2	97	...	0	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
170.	„ polyhymnia	xii.	4	97	...	...	...	...	...	. . .	...	...	...	...	0	...	...	...	...	
171.	„ viridis	xii.	19	98	...	...	...	...	...	. . .	0	...	0	...	0	...	...	...	...	
172.	„ elopurina	xii.	5	98	...	...	...	...	...	. . .	...	...	...	0	...	...	...	...	...	
173.	„ flammata	xiii.	15	99	...	...	...	...	...	. . .	...	...	...	...	...	...	...	...	0	
174.	„ semperi	.....		99	...	...	...	...	...	. . .	...	...	...	...	0	...	...	...	...	
	Subfam. TIBICENINÆ.																			
175.	Gæana maculata	iii.	17	104	0	0	...	...	0	. . .	...	...	...	...	...	...	...	...	...	
176.	„ stellata	iii.	15	105	0	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
177.	„ sulphurea	iii.	22	105	0	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
178.	„ hageni	ix.	8	106	...	...	...	...	...	. . .	...	0	...	...	...	...	...	...	...	
179.	„ festiva	iii.	18	106	0	...	...	...	...	. . .	...	0	...	...	...	...	0	...	...	
180.	„ atkinsoni	ix.	10	107	0	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
181.	„ octonotata	iii.	12	107	0	0	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
182.	„ tenebriscosa	iii.	14	108	...	0	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
183.	„ delinenda	iii.	16	108	0	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
184.	Talainga binghami	xiii.	4	109	...	0	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
185.	Graptotettix guttatus	iii.	21	110	0	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
186.	„ thoracicus	.....		110	...	0	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
187.	Huechys sanguinea	iii.	2	111	0	0	0	...	0	. . .	...	0	...	0	...	...	0	...	...	Sumbawa
188.	„ incarnata	iii.	4	112	...	...	...	...	...	. . .	...	...	0	...	...	...	0	...	...	
189.	„ phœnicura	iii.	6	113	...	...	...	...	...	. . .	...	...	0	...	0	...	...	...	...	
190.	„ vidua	iii.	9	113	...	...	...	0	...	. . .	...	...	...	...	...	...	...	...	...	
191.	„ fusca	iii.	7	114	...	...	...	0	...	. . .	...	0	...	0	0	...	...	...	...	Sulu Islands
192.	„ pingenda	iii.	1	114	...	...	...	...	...	. . .	...	0	...	...	...	...	...	...	...	
193.	„ celebensis	iii.	8	115	...	...	...	...	...	. . .	...	...	...	...	...	0	...	...	...	
194.	„ thoracica	iii.	3	115	...	0	0	...	...	. . .	...	...	...	...	...	...	...	...	...	
195.	„ lutulenta	xiv.	1	115	...	...	...	...	...	. . .	...	...	...	0	...	...	...	...	...	
196.	„ dohertyi	xiv.	2	116	...	...	...	...	...	. . .	...	...	...	0	...	...	...	...	...	
197.	„ chryselectra	xiv.	3	116	...	...	...	...	...	. . .	...	...	...	0	...	...	...	...	...	
198.	„ hæmatica	xiv.	4	116	...	...	0	...	...	. . .	...	...	...	...	...	...	...	...	...	
199.	Scieroptera splendidula	xiv.	5	117	0	0	0	...	0	. . .	...	0	0	0	...	0	...	...	...	
200.	„ crocea	xiv.	6	118	0	...	...	...	...	. . .	...	0	0	0	...	...	...	...	...	
201.	„ fumigata	xiv.	7	118	0	...	...	...	...	. . .	...	...	...	...	...	...	...	...	...	
202.	Mogannia viridis	xiv.	8	119	0	0	...	0	...	. . .	...	...	0	...	...	...	...	...	...	
203.	„ fulva	xiv.	9	119	...	...	...	...	...	. . .	...	...	...	...	...	...	...	0	...	
204.	„ obliqua	xiv.	10	119	0	0	...	...	...	. . .	...	...	0	...	...	...	...	...	...	
205.	„ doriæ	xiv.	11	120	...	...	...	...	...	. . .	...	...	...	0	...	...	...	...	...	
206.	„ sesioides	xiv.	12	120	...	...	...	...	...	. . .	...	0	0	...	...	...	...	...	...	
207.	„ hebes	xiv.	13	121	...	...	...	...	0	. . .	...	...	...	...	...	...	...	...	...	Formosa

	Tab. & Fig.	Page	CONTINENTAL: India	Burma	Tenasserim	Malay Peninsula	China	Other Localities	INSULAR: Ceylon	Sumatra	Java	Borneo	Philippines	Celebes	Moluccas	New Guinea	Japan	Other Localities
208. Mogannia nasalis	xiv. 14	121	...	...	...	...	0		...	...	...	...	...	...	...	...	...	
209. ,, cyanea	xiv. 15	121	0	0	...	...	0		...	...	...	...	...	...	...	...	...	
210. ,, effecta	xiv. 16	122	0	...	...	...	...		...	0	...	...	...	...	...	...	...	
211. ,, funebris	xiv. 17 *var.*	122	0	0	...	...	...		...	...	...	...	...	...	...	...	...	
212. ,, conica	xiv. 18	122	0	...	0	...	0		...	0	0	...	0	...	...	...	...	
213. Gymnotympana stridens*	ix. 16	124	...	...	...	...	...		...	...	...	...	...	...	0	...	...	
214. Kamalata pantherina	viii. 9	124	...	...	...	...	...		...	0	...	...	...	...	...	...	...	
215. Rustia dentivitta	viii. 14	125	0	0	...	...	...	Siam & Cambodia	...	...	...	...	...	...	...	...	...	
216. ,, tigrina	xiv. 19	126	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
217. Karenia ravida	xii. 6	126	...	0	...	...	...		...	...	...	...	...	...	...	...	...	
218. ,, cælatata	xiii. 5	127	...	...	...	...	0		...	...	...	...	...	...	...	...	...	
219. Tibicen casyapæ	xiv. 20	128	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
220. ,, reticulatus	xiv. 21	128	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
221. ,, lacteipennis	x. 5 / xii. 10	129	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
222. ,, subvittatus	xii. 17	129	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
223. ,, nanus	xiv. 22	130	...	...	...	...	0		...	...	...	...	...	...	...	...	...	
224. ,, tener	vi. 5	130	...	...	...	...	...		...	...	...	...	0	...	...	...	...	
225. ,, maculicollis	xiv. 23	131	0	...	...	0	...		...	...	...	...	...	...	...	...	...	
226. ,, apicalis	xii. 15	131	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
227. ,, nubifurca	xiv. 24	131	...	...	...	...	...		0	...	...	...	...	...	...	...	...	
228. ,, ferrarius	.....	132	...	...	...	...	...		...	...	...	...	0	...	...	...	...	
229. ,, pusillus	.....	132	...	...	...	...	...		...	...	...	...	...	...	0	...	...	
230. Emathia ægrota	xii. 3	133	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
231. Cicadatra querula	xii. 2	134	0	...	...	...	...	Persia, Turkestan, & Afghanistan	...	...	...	...	...	...	...	...	...	
232. ,, rugipennis	xii. 7	135	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
233. ,, xantes	xv. 1	135	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
234. ,, striata	xv. 2	135	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
235. ,, acberi	xv. 3	136	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
236. Calcagninus picturatus	viii. 13	136	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
237. ,, nilgirensis	viii. 15	137	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
238. Terpnosia nigricosta	xv. 4	138	...	...	...	...	...		...	...	...	...	...	...	...	...	0	
239. ,, pryeri	xv. 5	139	...	...	...	...	...		...	...	...	...	...	...	...	...	0	
240. ,, stipata	xv. 6	139	...	...	...	...	...		0	...	...	...	...	...	...	...	...	
241. ,, psecas	vii. 21	140	0	...	...	...	...		0	...	0	...	...	...	...	...	...	
242. ,, maculipes	xv. 7	140	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
243. ,, clio	ix. 5	141	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
244. ,, andersoni	ix. 13	141	...	...	...	...	0		...	...	...	...	...	...	...	...	...	
245. ,, madhava	ix. 2	141	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
246. ,, collina	vii. 12	142	0	0	...	...	...		...	...	...	...	...	...	...	...	...	
247. Melampsalta literata	xv. 8	143	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
248. ,, continuata	xv. 9	143	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
249. ,, pellosoma	xv. 10	143	...	...	...	...	0		...	...	...	...	...	...	...	...	...	
250. ,, exæquata	xv. 11	144	0	...	...	...	...		...	...	...	...	...	...	...	...	...	
251. ,, lævifrons	.....	144	...	...	...	...	...		...	...	...	...	0	...	...	...	...	
252. Prasia faticina	vii. 14	145	...	...	...	...	...		...	...	...	...	...	0	...	...	...	
253. ,, princeps	xiii. 14	145	...	...	...	...	...		...	...	...	...	...	0	...	...	...	
254. ,, hariola	vii. 16	146	...	...	...	...	...		...	...	...	...	...	...	...	0	...	Mysol
255. ,, fatiloqua	vi. 2	146	...	...	...	...	...		...	...	...	...	0	...	...	...	...	
256. ,, foliata	xv. 12	146	...	...	...	...	...		...	...	...	...	...	0	...	...	...	Sangir
257. Lembeja maculosa	vii. 13	147	...	...	...	...	...		...	...	...	...	...	0	...	...	...	
258. ,, paradoxa	.....	148	...	...	...	...	...		...	...	...	...	...	...	...	0	...	
259. Bæturia conviva	xiv. 25	148	...	...	...	...	...		...	...	...	...	...	...	0	0	...	Timor, Aru, & Duke of
260. ,, exhausta	xv. 13	149	...	...	...	...	...		...	...	...	...	...	...	0	0	...	[York Island
261. ,, obtusa	xv. 14	149	...	...	...	0	...		...	0	0	...	...	...	...	...	...	
262. ,, beccarii	xiv. 27	149	...	...	...	...	...		...	0	...	0	...	...	...	0	...	
263. ,, innotabilis	xv. 15	150	...	...	...	...	...		...	...	...	...	...	...	0	...	...	
264. ,, subnotata	xv. 16	150	...	...	...	...	...		...	...	...	...	...	...	0	...	...	
265. ,, stigma	xv. 17	150	...	...	...	...	...		...	...	...	...	...	...	0	...	...	
266. ,, bicolorata	xiv. 26	150	...	...	...	...	...		...	...	...	...	...	...	...	0	...	
267. ,, ? sandaracata	vii. 9	151	...	0	...	...	...		...	...	...	...	...	...	...	...	...	
268. Acrilla adipata	xv. 18	151	...	...	...	...	...		...	...	...	...	...	...	...	...	...	Mysol

* Gymnotympana strepitans, tab. viii., fig. 9, page 124 (note); locality, Woodlark Island.

Presented

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ORIENTAL CICADIDÆ.

Class INSECTA.

Order RHYNCHOTA.

Suborder HOMOPTERA.

Fam. CICADIDÆ.

Stridulantes, Latreille, Fam. Nat. du Règne Anim. p. 426 (1825); Amyot & Serville, Hist. des Hém. p. 458 (1843).

Stridulantia, Burmeister, Handb. ii. 1, pp. 102, 170 (1835); Stål, Hem. Afr. iv. p. 1 (1866).

Cicadidæ, Westwood, Intr. Mod. Class. Ins. ii. p. 420 (1840); Arcan. Entomol. i. p. 91 (1843); Distant, Biol. Centr. Am. Rhynch. Hom. p. 1 (1881).

Cicadariæ, Packard (nec Latreille), Guide Study Ins. 5th edit. p. 533 (1876).

The principal characters of this family of Homoptera are as follows:—Ocelli three in number and placed on the disk of the vertex of head; antennæ short, inserted close to the eyes and composed of seven joints. The head is short, broad, and transverse, terminating beneath in an elongated rostrum composed of three joints. The thorax is large; the pronotum short and transverse, with two oblique longitudinal discal furrows on each side; the mesonotum* is very large and terminates behind in a small basal cruciform elevation.† The abdomen consists of six segments and an anal segmental appendage. The anterior femora are incrassated and more or less spinose beneath. The tegmina are generally hyaline, sometimes opaque; the venation usually distinct and furcate in ramification, but sometimes reticulate.‡

The sound-producing or stridulating organs of the male§ have been studied and described by Réaumur,‖ Goureau and Solier,¶ Dugès,** Landois,†† Mayer,‡‡ and Carlet.§§ Mr. Jno. C. Galton has also given an excellent resumé of the same,‖‖ especially as regards the work of Carlet. Prof. C. Lloyd Morgan has recently contributed a short but very succinct description of "the sound-producing apparatus of the Cicadas,"¶¶ which Mr. Middlemiss, writing from the North-West Himalaya, has supplemented by further particulars.***

This sound-producing apparatus is covered beneath by two flaps, which, as pointed out by Westwood, are "in fact, the dilated sides of the metasternum"†††; these are often incorrectly

* This has been considered as a scutellum by Stål and some other writers, but I am supported in my view by Burmeister and Westwood.

† The metathoracic cross of Mr. Uhler (see fig. 1, 5. p. 4). ‡ As in *Polyneura ducalis*, Westw.

§ Dr. Bennett found that the natives of New South Wales were acquainted with the fact that the males alone produced the sound. They said, in their peculiar English, "Old woman Galang galang no got, no make a noise," implying that the females do not possess these musical instruments.—'Wanderings in New South Wales,' vol. i. p. 237.

‖ 'Mémoires,' tom. v. pl. xvii. (1740). ¶ Ann. Soc. Ent. de France, tom. vi. (1837).

** 'Traité de Physiologie comparée,' tom. ii. (1838). †† Zeitschr. für wissench. Zool. bd. xvii. s. 105 (1867).

‡‡ 'Zeitschr. für wissench. Zool. bd. xxviii. s. 79 (1877).

§§ 'Ann. des Sciences Naturelles,' ser. 6, Zool. tom. v. & 'Comptes Rendus de l'Acad. des Sciences' (1876).

‖‖ 'Popular Science Review,' new ser. vol. i. p. 353, pl. x.

¶¶ 'Nature,' vol. xxxiii. p. 368 (1886). *** Ibid. p. 583 (1886).

††† 'Modern Classification of Insects,' vol. ii. p. 422.

described as "drums," but are really covering-flaps, or as they are generally called "opercula," in agreement with Stål and other writers. These opercula, in many genera, are by their length and structure most important factors in specific differentiation. The real drums or "tympana" are either seen above on each side near the base of the abdomen as in the *Tibicininæ*, or covered by the dilated or expanded lateral areas of the basal abdominal segment,* as in the *Cicadinæ*.

The females are provided with a remarkably developed ovipositor, by which they are enabled to pierce the branches of trees and there deposit their eggs. According to Westwood, the female deposits from five to seven hundred eggs,† but we have the statement of Dr. Hildreth that in North America the stock of eggs possessed by the female of *Tibicen septemdecem* "amounted to about one thousand."‡

It may be here stated that it is proposed in this work to fully describe and figure all the species known or recorded from Continental India and Ceylon, the islands in the Bay of Bengal, Burma, Tenasserim, the Malay Peninsula, the length and breadth of the Malayan Archipelago, including, but not extending eastward of, New Guinea; and Eastern Asia including China and Japan. It will be thus evident that this area, in a zoo-geographical sense, is a very arbitrary one, including the whole of the Oriental Region of Wallace, or the Indian Region of Sclater,§ entering the Australian Region at New Guinea, and embracing the Japanese Subregion of the Palearctic realm. The Monograph thus embraces—literally—*Oriental* Cicadidæ, and many genera can thus be more exhaustively treated than if a smaller, though more accurate, zoo-geographical region had limited our descriptive work.

As regards the habits and life peculiarities of the *Cicadidæ*, we lack much precise information. References to these sound-producing insects are naturally found in most books of travel written by authors to whom Nature has, at least, some kind of interest, but even in these the recorded facts can only be applied to the members, or rather some individuals, of the group‖ belonging to a special locality, as specific, or even generic, distinctions can scarcely be expected to be recognised. Some attempt will be made to collate a number of these observations, and opportunity will be sought to diffuse them throughout the work in a more or less geographical manner as opportunities arise.

The general impressions of Cicadan music are naturally varied. Darwin, when at

* I follow Stål in considering this as the basal segment of the abdomen, though Mr. Woodworth, in a recent "Synopsis of North American Cicadidæ," describes the "second abdominal segment of the male" as being expanded.—'Psyche,' vol. v. p. 67 (1888).

† 'Modern Classification of Insects,' vol. ii. p. 425.

‡ Sillim. Amer. Journ. 1830, p. 49.—As Darwin has admirably put it, "the real importance of a large number of eggs or seeds is to make up for much destruction at some period of life; and this period in the great majority of cases is an early one."—'Origin of Species.'

§ Address delivered to Biol. Sect. Brit. Association, Bristol (1875).

‖ Even this is not always the case. Thus we frequently find, in books of travel, references to grasshoppers, when cicadas are evidently the insects intended. But perhaps the "reductio ad absurdum," in this respect, is reached by an anecdote given in that still charming narrative of Capt. Cook:—"One of the seamen who had been rambling in the woods told us at his return that he verily believed he had seen the devil; we naturally enquired in what form he had appeared, and his answer was in so singular a style that I shall set down his own words:—'He was,' says John, 'as large as a one-gallon keg, and very like it; he had horns and wings, yet he crept so slowly through the grass, that if I had not been *afeard*, I might have touched him.' This formidable apparition we afterwards discovered to have been a bat."—'The Voyages of Capt. Jas. Cook,' vol. i. p. 234. Our modern poets are now even changing the English name; thus, in Mr. Allingham's 'Flower Pieces and other Poems,' just published, and in which some earlier-published poems have received a new editing, "Cicada drunk with drops of dew," has become a tettix, and we read "O Tettix," and "O my Tettix," where formerly appeared, "Cicada," and "dear Cicada." But, oh, *mirabile dictu!* a reviewer of these poems defends the name "Cicada" against "Tettix," as though less onomatopœic, being more pleasant, and long since "the English way of naming this *grasshopper*."

Botofogo Bay, thought the "ceaseless shrill cry," when softened by distance, "not unpleasant";* in the Himalayas, Mr. Middlemiss describes the "deafening roar" from the rhododendron-trees, like the "whirr of large machinery;"† and Dr. Hildreth states that the "countless multitude" of *Tibicen septemdecem*, Linn., filled woodlands and orchards with a "continual singing or scream," from sunrise till evening, so loud that in a calm morning "the sound was heard a full mile."‡ Nor must we omit the testimony of Virgil, whose utterances, once more made classic in the pages of Kirby and Spence, describe the Italian species "as bursting the very shrubs with their noise"§—"Et cantu querulæ rumpent arbusta cicadæ" (Georg. iii. 328).‖

As regards the classification of the *Cicadidæ*, we are, as in many other groups of Rhynchota, much indebted to the work of the late Dr. Stål,¶ and there can be little doubt that his proposed classification, according to our present knowledge, is a sound one, and is and will be generally followed, if not entirely adopted by most students of the family. In fact, without the "Illative Sense," as propounded by Cardinal Newman, it is difficult to frame a very different one, and with some modifications, and supplemental proposals, it is adopted here.

It appears that two divisions or subfamilies can be well differentiated:—

Male. *Tympana entirely or in great part covered by the dilated or expanded lateral areas of the basal abdominal segment.*** - - - - - - - CICADINÆ. p. 4

Male. *Tympana entirely or in greater part uncovered.* - - - - - TIBICENINÆ. p. 103

Subfam. CICADINÆ.

In this subfamily I include thirteen genera, and from these I have been obliged to eliminate many species hitherto thus generically treated, and to incorporate some which seem to have been unnecessarily divorced. The following synopsis will, however, best explain the generic views here followed. In the differentiation of the species, good structural characters can generally be found. These, as a rule, exist in the length and shape of the opercula, and where they are unduly developed the greatest specific distinction occurs, as is the case with other organisms, as pointed out by Darwin.†† These specific differentiations in opercula reach their maximum in the genera *Dundubia* and *Cosmopsaltria*, and the structure of the face, or in some cases the length of the rostrum, are also important factors in the discrimination of the species. Colour differences alone, without coincident structural departure, are treated as varietal and not specific differences.

Before proceeding further, it will probably be well to explain the nomenclature here used to represent the different anatomical divisions and other specialized forms of structure which are principally used in the diagnosis of genera and species; in other words, that portion

* 'Voyage of the Beagle,' 10th edit. p. 29.

† 'Nature,' vol. xxxiii. p. 583 (1886).

‡ Sillim. Amer. Journ. 1830, p. 48.

§ Kirby & Spence, 'Introd. to Entomol.' 7th ed. p. 500.

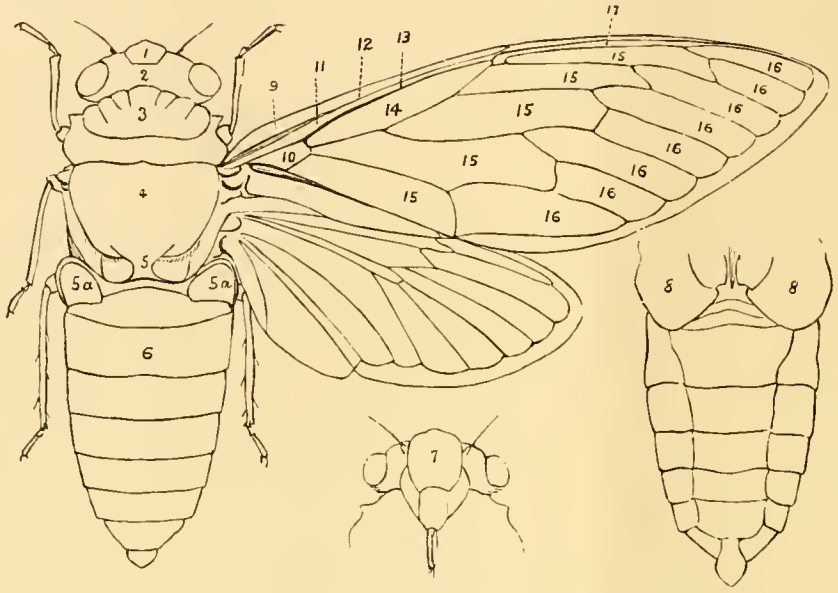
‖ Libanius, in his funeral oration upon the Emperor Julian, with the lofty rhetoric used on those occasions, exclaimed, "Whenever a cessation of business occurred, after breakfasting just sufficient to support life, he was not beaten by the *cigale*, but throwing himself upon piles of books, he sung away."—'Julian the Emperor,' King's translat. p. 176.

¶ Hem. Afr. vol. iv. p. 1 (1866).

** See fig. 1, 5*a*, p. 4.

†† As in the opercular valves of sessile Cirripedes (rock barnacles), but these not only show specific distinction, sometimes "wholly unlike in shape," but vary in the individuals of the same species ('Origin of Species,' 6th edit. p. 120).

of the subject which was well separated by Burmeister under the name of "Partial Orismology."



1. Front of head.
2. Vertex of head.
3. Pronotum.
4. Mesonotum.
5. Cruciform elevation.
5*a*. Abdominal coverings to tympana.
6. Abdomen.
7. Face, on underside of head.
8. Opercula.
9. Costal membrane.
10. Basal cell.
11. Costal area.
12. Costal vein.
13. Radial vein.
14. Radial area.
15. Ulnar areas.
16. Apical areas.
17. Postcostal area.

Fig. 1. General structure of *Pomponia imperatoria*.

SYNOPSIS OF GENERA.

1. Lateral margins of the pronotum ampliated and more or less angularly produced.
   a. Tegmina with eight apical areas.
      b. Expanse of head, including eyes, broader than mesonotum. - - - PŒCILOPSALTRIA.
      bb. Expanse of head, including eyes, not broader than mesonotum. - - PLATYPLEURA.
   aa. Tegmina with the venation dense and furcate, the apical areas numerous, but small and irregularly formed. - - - - - - - POLYNEURA.
2. Lateral margins of the pronotum convex, but not angularly produced.
   A. Tegmina and wings more or less opaquely coloured.
      c. Lateral margins of the pronotum somewhat convex but even.
         d. Head, including eyes, equal in width to anterior lateral margins of pronotum. TACUA.
         dd. Head, including eyes, narrower than anterior lateral margins of pronotum. GRAPTOPSALTRIA.
      cc. Lateral margins of the pronotum anteriorly subampliated and somewhat toothed. TOSENA.
   AA. Tegmina and wings either totally or partially hyaline.
      B. Lateral margins of the pronotum more or less distinctly toothed.
         c. Second and third ventral segments in male with distinct lateral tubercles LEPTOPSALTRIA.
         cc. Ventral segments without tubercles.
            f. Opercula long, generally reaching beyond middle of abdomen.
               g. Head with the front large and convex, about twice as broad at base as anterior margins of the lobes of vertex.
                  h. Rostrum scarcely reaching the posterior coxæ. - - - DUNDUBIA.
               gg. Head with the front not twice as broad at base as anterior margins of the lobes of vertex.
                  hh. Rostrum reaching, sometimes slightly passing, the posterior coxæ.
            ff. Opercula long, at least reaching centre and, sometimes apex, of abdomen. COSMOPSALTRIA.
            fff. Opercula short and transverse.
               i. Interior ulnar area normal. - - - - - POMPONIA.
               ii. Interior ulnar area broad and beyond base distinctly ampliated. PSITHYRISTRIA.
      BB. Lateral margins of the pronotum not toothed.
         k. Metasternum elevated at middle and furnished with a posterior process turning backwards. - - - - - CRYPTOTYMPANA.
         kk. Metasternum not, or very slightly, elevated, but not provided with posterior process. - - - - - CICADA.

Genus PŒCILOPSALTRIA.

Pœcilopsaltria, Stål, Hem. Afr. vol. iv. p. 2 (1866); Atkins. J. A. S. Beng. vol. liii. p. 211 (1885); ibid. vol. lv. p. 143 (1886).

Body robust, somewhat short. Head broad, truncate anteriorly, including eyes broader than the base of the mesonotum; ocelli about twice and sometimes thrice the distance from eyes as from each other; face moderately convex, not prominent above. Pronotum with the lateral margins ampliated, or horizontally and laminately expanded, obtusely or acutely angulated near centre. Anterior femora not distinctly spined. Metasternum elevated, the elevated portion centrally sulcated and somewhat sinuately truncated. Tympana practically covered; opercula short, broad, their apices more or less convexly rounded. Tegmina with the basal cell or area broad, irregular, with four or sometimes five angles; ulnar veins widely separated at their bases; interior ulnar area somewhat broadened at apex.

This genus has a wide distribution; it is found in tropical and subtropical Africa, throughout the Oriental region and enters the Palearctic fauna at China. Of twenty-five species at present known to the writer or otherwise recorded, no less than twenty-one are found in our fauna, and are here enumerated, nineteen only being figured, as two have proved to the present time unprocurable.

Many of the species show considerable dissimilarity to each other in coloration, structure, and general appearance; specific variation itself exists only to a moderate degree, and is principally confined to the markings of the tegmina and wings.

A. *Tegmina and wings clear and unspotted.*

a. *Pronotal angles very prominent and acute.*

1. Pœcilopsaltria bufo. (Tab. VIII., fig. 20, *a*, *b*.)

Oxypleura bufo, Walker, List. Hom. i. p. 27, n. 9 (1850); Atkins. J. A. S. Beng. vol. liii. p. 216, n. 15 (1885).
Platypleura (*Oxypleura*) *bufo*, Butl. Cist. Ent. i. p. 195, n. 44 (1874).
Platypleura bufo, Atkins. J. A. S. Beng. vol. lv. p. 149, n. 10 (1886).

This species is only known to the writer by Walker's type in the collection of the British Museum. That specimen is here figured, and Walker's original description, slightly remodelled in sequence, is reproduced.*

"Body tawny; head and chest very broad: head much narrower than the fore-chest,† adorned with two black irregular bands, the hinder one passing over the region of the eyelets: face very slightly convex: mouth‡ tawny, with a black tip, reaching the hind border of the drums§: eyes not prominent: feelers black: fore-chest broadest in the middle: scutcheon¶ adorned with a blackish mark in the middle: furrows blackish; hind-scutcheon** pale tawny, ferruginous, much widened, and forming a very projecting right angle on each side: scutcheon of the middle-chest†† ferruginous: hind border very slightly excavated: abdomen ferruginous, shorter and narrower than the chest,‡‡ tawny at the tip and beneath: opercula§§ tawny, partly pitchy, close: drums tawny, rather large, nearly meeting, less than half the length of the abdomen, their disks darker: legs tawny; tips of the claws black; fore-thighs armed with two extremely

* A comparison is also attempted of the structural terms used by Walker and those followed in this work.
† Prosternum. ‡ Rostrum.
§ Opercula.—The rostrum considerably passes the posterior margin of the opercula.
¶ Antennæ. ** Pronotum. †† Posterior margin of pronotum.
‡‡ Mesonotum. §§ Sternum. §§ Tympanal coverings.

short and blunt tawny teeth; wings with an exceedingly slight tawny tinge, tawny towards the base, bright tawny along the fore border; veins tawny, darker towards the tips; cross veins darker.

Second marginal areolet* nearly as long as the first; first cross vein very slightly curved, slanting, forming a very obtuse angle, parted from the second by more than four times its length; second slightly curved, very slanting, forming a very obtuse angle, nearly twice the length of the first; third nearly straight, very slanting, forming a slightly acute angle; fourth nearly straight, slanting, forming a very slightly acute angle, a little shorter than the third; fifth curved, forming a slightly acute angle."

Long. excl. tegm. ♂. 29 millim. Exp. tegm. 86 millim. Exp. pronot. angl. 19 millim.

Hab.—East India (*sic*); (Brit Mus.).

Nothing can be more unsatisfactory than such a habitat as "East India," and the proper locality of the species is still to be discovered.

aa. *Pronotal angles moderately prominent and acute.*

2. Pœcilopsaltria canescens. (Tab. VIII., fig. 18, *a*, *b*.)

Oxypleura canescens, Walker, Journ. Linn. Soc., Zool. x. p. 83 (1867).

Platypleura (*Oxypleura*) *canescens*, Butl. Cist. Ent. i. p. 197, n. 50 (1874).

Platypleura (*Oxypleura*) *acutipennis*, Butl. Cist. Ent. i. p. 195, n. 45 (1874).

Head and pronotum ochraceous; a spot at anterior angles of front, a transverse fascia between eyes widened at area of ocelli, a small spot between ocelli and eyes, lateral margins of the pronotum and the inner edge of the posterior margin (broken at centre) black. Mesonotum dark castaneous, with the following black markings:—a central fascia widened in front of cruciform elevation, two obconical spots on anterior margin and a longitudinal fascia on each lateral area. Abdomen castaneous, somewhat thickly clothed with greyish pile. Body beneath and legs ochraceous; a transverse fascia between eyes, central sulcation to face, margins of the laterally dilated prosternum, a small spot at bases of opercula, and a spot at bases of posterior (and sometimes also of intermediate) tibiæ, black.

Tegmina pale hyaline; the costal membrane and basal cell ochraceous, the venation brownish-ochraceous; the transverse veins at bases of third, fifth, and seventh apical areas, and the apices of the longitudinal veins to apical areas, slightly infuscated. Wings hyaline, the venation ochraceous or brownish-ochraceous.

The face is very strongly transversely striate, and its central sulcation is very broad. The rostrum just passes the posterior coxæ and reaches the central connecting angles of the opercula, which are broad and short, not extending beyond the base of the abdomen.

Long. excl. tegm. ♂, 23 millim. Exp. tegm. 82 millim. Exp. pronot. angl. 14 millim.

Hab.—Sumatra (V. Lansberg—Leyden Mus.). Banda (Wallace—Brit. Mus.). Timor Laut (Forbes—coll. Dist.). Aru Islands (Wallace—Brit. Mus.; Beccari—Genoa Mus.).

The form described by Mr. Butler as *P.* (*O.*) *acutipennis*, is a slight variety, but I possess a specimen from Timor-Laut which is quite intermediate between that form and the typical *P. canescens*, Walk. This species has evidently a wider distribution in the Malayan Archipelago than our present collections enable us to describe.

3. Pœcilopsaltria calypso. (Tab. X., fig. 3, *a*, *b*.)

Oxypleura calypso, Kirby, Proc. Zool. Soc. 1888, p. 553.

This species is only known to the writer by the type in the British Museum (which is here figured), and Mr. Kirby's description, which is here reproduced:—

"*Male*. Black, with testaceous markings. Head black; front of vertex with a wide testaceous stripe on each side, extending from the inside of the eye to the striated portion of the face. Longitudinal

* Apical area.

sulcation broad, rather deep, black, surmounted by a trapeziform ochreous spot; the transverse striations, except the upper ones, are marked with ochreous, ending in a continuous ochreous stripe, not striated, on each side of the extremity of the longitudinal sulcation. Sides of face clothed with thick yellowish-grey hair; labrum with a longitudinal testaceous stripe, expanded above and below; proboscis testaceous, black towards the extremity, and reaching as far as the hinder trochanters; antennæ black. Pronotum testaceous, entirely so behind; a dumbbell-shaped black mark in front of this, extending to the front edge, and the central sutures blackish; sides not greatly expanded, with irregular black markings, and clothed with grey hair; mesonotum black, with two short thick tawny stripes on each side, not reaching the front edge, and a spear-shaped tawny mark, filled with black in the middle, directed forwards; scutellum with the hinder half and lateral ridges testaceous. Abdomen black; sutures narrowly edged with testaceous, especially on the sides; segment 7 with two testaceous dots in the middle and a larger spot on each side. Sternum mostly black, clothed with greyish hair; legs testaceous; coxæ, four front femora, and tarsi streaked with black above; opercula testaceous, extending nearly to the end of the first segment of the abdomen. Abdomen beneath testaceous; basal segment entirely black, the following segments triangularly blackish on each side at the base, the last two lateral lobes spotted with black. Tegulæ and wings hyaline, with brown nervures; costal nervures and inner marginal nervures testaceous."

Long. excl. tegm. 28 millim. Exp. tegm. 76 millim. Exp. pronot. angl. 13 millim.*

Hab.—Christmas Island (Lister—Brit Mus.).

B. *Tegmina and wings clear, but more or less spotted.*

4. **Pœcilopsaltria polita.** (Tab. I., fig. 16, *a*, *b*.)

Oxypleura polita, Walker, List Hom. i. p. 29, n. 11 (1850).

Platypleura (*Oxypleura*) *polita*, Butl. Cist. Ent. i. p. 196, n. 46 (1874).

Head, pronotum, and mesonotum tawny-ochraceous; head with some black spots on front and a broken transverse black fascia between the eyes; pronotum with two black discal spots, the anterior one longitudinal, the posterior one transverse; mesonotum with four black spots on anterior margin, the two central ones smallest, a central longitudinal line not reaching anterior margin, and a small spot in front of each anterior angle of the basal cruciform elevation; abdomen black, tympanal coverings, lateral posterior margins of the first segment, posterior margins of the second, third, and fourth segments, and a large spot on each side of the apical segment ochraceous. Head beneath, sternum, and opercula ochraceous; a spot on each side of anterior margin and the central sulcation to face, a transverse spot between face and eyes, and the interior area of opercula black; abdomen beneath dark castaneous. Tegmina pale hyaline, costal membrane and venation brownish-ochraceous, transverse vein at base of second ulnar area, and the transverse veins at bases of apical areas faintly infuscated, faint fuscous spots on lower margins of second and third ulnar areas, and a small double series near the apices of the longitudinal veins to apical areas.

The pronotum is considerably and angularly produced on each side, the rostrum passes the posterior coxæ, and extends to near the inner angles of the opercula.

Var. a. Tegmina with all the fuscous markings darkened and enlarged, and with the addition of the basal cell, a spot in centre and at apex of radial area, and a spot near base of fourth ulnar area, also pale fuscous.

Long. excl. tegm. 23 millim. Exp. tegm. 70 millim. Exp. pronot. angl. 12 to 12½ millim.

Hab.—Continental India; Karwar, Canara, Trevandrum (Calc. Mus. and coll. Dist.).

The varietal form described above was collected at Trevandrum. The species is evidently a continental one, and its habitat is now for the first time published, as Walker had no knowledge of the locality from which the British Museum specimen was derived.

* I have taken these dimensions from the figure, as Mr. Kirby has appended none to his diagnosis.

5. Pœcilopsaltria cervina. (Tab. V., fig. 12, *a*, *b*.)

Platypleura cervina, Walker, List Hom. i. p. 16, n. 22 (1850); Stål, Berl. Ent. Zeit. 1866, p. 172; Atkins. J. A. S. Beng. vol. liii. p. 217, n. 16 (1885); ibid. lv. p. 149, n. 1 (1886).

Platypleura straminea, Walk. List Hom. i. p. 17, n. 23 (1850).

Platypleura (*Oxypleura*) *cervina*, Butl. Cist. Ent. vol. i. p. 198, n. 52 (1874).

The following is Walker's description of this species:—

"♀. Body pale buff: head nearly as broad as the fore-chest; face very slightly convex; mouth pale buff, with a black tip extending to the hind hips: eyes not prominent: feelers pitchy, buff at the base: fore-chest of equal breadth from the fore border to the hind border; hind-scutcheon widened, and nearly straight on each side; hind border of the scutcheon of the middle chest very slightly excavated; abdomen obconical, a little longer than the chest: drums very small, far apart; legs pale buff; claws black, tawny towards the base; fore thighs armed with small teeth; hind shanks beset with buff spines whose tips are black; wings whitish; veins yellow; fore-wings buff along the fore border; cross-veins clouded with brown; a row of brown dots on the tips of the longitudinal veins of the marginal areolets.

"Second marginal areolet much longer than the first; first cross-vein slightly curved, slanting, forming an obtuse angle, parted from the second by nearly thrice its length; second slightly curved, slanting, forming a very obtuse angle, about twice the length of the first; third very slightly curved, slanting, forming an acute angle; fourth slightly curved, slanting, forming an acute angle, much shorter than the third; fifth curved, forming a very slightly acute angle."

Long. excl. tegm. ♂. 18 millim. Exp. tegm. 50 millim. Exp. pronot. angl. 9 millim.

Hab.—Continental India; North Bengal (Miss Campbell, Brit. Mus.; and Calc. Mus.)

This appears to be a very rare species, or at all events is very seldom found in collections; it is probably quite confined to Continental India, and even there its distribution may be considerably localised. The male specimen figured is in the possession of the Calcutta Museum.

C. *Wings always more or less opaque.*

D. *Tegmina opaquely spotted or banded.* (♀♀. p. 74)

6. Pœcilopsaltria basi-viridis. (Tab. IX., fig. 6, *a*, *b*.)

Platypleura basi-viridis, Walker, List. Hom. i. p. 18, n. 24 (1850); Butl. Cist. Ent. i. p. 188, n. 19 (1874).

Head and thorax above brownish-ochraceous; the posterior margins of pro- and meso-notums stramineous; head with a large spot on each side of front, and a transverse fascia between the eyes, enclosing ocelli and connected with base, black; pronotum with a central discal angulated spot, two transverse spots on centre of posterior margin, a somewhat oblique spot behind eyes, the lateral margins and the furrows black: mesonotum with four obconical spots on the anterior margin, the central ones shortest, a large spear-shaped central spot—not reaching anterior margin,—on each side of this a small rounded spot, a spot on the centre of anterior margin and the anterior angles of the cruciform elevation, black; abdomen blackish, the tympanal coverings and the posterior segmental margins ochraceous. Body beneath dull ochraceous; central sulcation and anterior margin of face,—excluding centre,—a large spot between face and eyes, apex of rostrum and apices of the tarsi black.

Tegmina hyaline, the venation brownish, costal membrane brownish with two blackish spots; basal cell brownish with a darker spot, a curved fascia crossing near base, followed by a more waved macular fascia, a dark and outwardly concave macular fascia crossing beyond end of radial area, an obliqne fascia situate on the transverse veins at bases of apical areas, and extending from post-costal area to about half the breadth of tegmina, and a double series of small obscure spots on apices of longitudinal veins to

apical areas dark brownish; wings ochraceous, margins broadly—especially at apex—dark brownish, with a pale marginal whitish spot at apex and centre of posterior margin.

Long. excl. tegm. ♂, 18 millim. Exp. tegm. 52 to 55 millim. Exp. pronot. angl. 10 millim.

Hab.—Continental India: Karwar (Calc. Mus.).

This is another of those species described by Walker, to which, at the time, no locality could be given; but a specimen recently forwarded to me by Mr. Atkinson, which had been captured at Karwar, enables the species to be added to our fauna.

7. Pœcilopsaltria basialba. (Tab. VIII., fig. 19, *a*, *b*.)

Oxypleura basialba, Walker, List Hom. i. p. 26, n. 8 (1850).

Platypleura basialba, Butl. Cist. Ent. i. p. 191, n. 32 (1874); Atkins. J. A. S. Beng. vol. lv. p. 147, n. 7 (1886).

This species being only known to the writer by the typical specimen in the British Museum, the usual plan of giving the original description is followed:—

"Body yellow, clothed with white hairs, covered beneath with white powder; forehead adorned with a black band in front and behind, and with a stripe of short black bands on each side; cheeks also with slender black bands; eyes tawny; eyelets red; feelers tawny, with black bands and tips; fore-chest adorned with seven small black marks; middle-chest adorned with three black stripes, the side pair oblique, the middle one straight, widened on each side by the fore border, and having a small black spot on each side near the hind border; abdomen black; drums, tip and hind borders of the segments yellow; legs yellow, clothed with short white hairs; tips of the claws black; hind-shanks beset with tawny spines; fore thighs armed beneath with two small teeth; wings colourless, white at the base above, brown at the base beneath; from this brown hue a short tawny stripe proceeds along the hind border, and communicates with an oblique brown band which crosses the wing near its base; hind-wings colourless, dark brown with a whitish outline for near half the surface from the base, which is tawny; flaps dark brown; veins tawny, pitchy at the tips of the fore-wings.

"Second marginal areolet as long as the first; first cross-vein nearly straight, very slanting, forming an extremely obtuse angle, parted from the second by full five times its length; second very slightly curved, very slanting, forming an extremely obtuse angle, a little more than twice the length of the first; third very slightly curved, slanting, forming an acute angle; fourth curved, upright, forming a slightly acute angle."

Long. excl. tegm. 21 millim. Exp. tegm. 62 millim. Exp. pronot. angl. 11 millim.

Hab.—Continental India; North Bengal (Miss Campbell—Brit. Mus.).

This appears to be either a very rare or a very local species.

8. Pœcilopsaltria subrufa. (Tab. I., fig. 1, *a*, *b*.)

Oxypleura subrufa, Walker, List Hom. i. p. 25, n. 7 (1850).

Platypleura subrufa, Butl. Cist. Ent. i. p. 192, n. 36 (1874); Atkins. J. A. S. Beng. vol. liii. p. 216, n. 14 (1885); ibid. lv. p. 148, n. 9 (1886).

Head brownish-ochraceous; lateral and basal margin of front, anterior lateral margins of vertex and a transverse fascia between the eyes black; pronotum brownish-ochraceous, the posterior and lateral margins stramineous, edges of the dilated lateral margins and a small obscure central discal spot black: mesonotum pale castaneous, with four obconical black spots on anterior margin, the central two shortest, a central black elongate discal spot, and a small rounded black spot in front of each anterior angle of the

basal cruciform elevation; abdomen black, with the posterior segmental margins narrowly castaneous; head beneath, rostrum, sternum, opercula and legs ochraceous; head with the central sulcation and a large spot on each side of anterior margin of face and a broad fascia between face and eyes black; abdomen beneath castaneous, with the posterior segmental margins paler.

Tegmina with about basal third opaque, remainder hyaline; base, a subbasal oblique fascia and a shorter transverse fascia at about centre brownish, the space between base and the subbasal fascia obscure creamy white, the costal membrane ochraceous, its anterior edge minutely spotted with brown, venation brownish-ochraceous, the apical margins of the ulnar areas infuscated, and some elongate spots on the apices of the longitudinal veins to apical areas of the same colour; wings dark brownish with a central obscure creamy fascia not reaching posterior margin, the apical margin and a spot on posterior margin creamy white.

The transverse striations of the face are coarse and profound, the rostrum reaches the interior angles of the opercula, which have their posterior and lateral margins oblique.

Long. excl. tegm. ♂, 28 millim. Exp. tegm. 75 millim. Exp. pronot. angl. 14 millim.

Hab.—Continental India—no locality—(coll. Dist.). Ceylon; Colombo (Calc. Mus.).

This is another scarce species in collections. Walker's type is unlocalised. I possess a specimen simply labelled "India," and the Indian Museum contains an example from Colombo. The *Cicadidæ* of Ceylon have still to be collected.*

9. Pœcilopsaltria octoguttata. (Tab. I., fig. 5, *a*, *b*.)

Tettigonia 8-guttata, Fabricius, Ent. Syst. Suppl. p. 515, 22–23 (1798); Syst. Rhyng. p. 39, 33 (1803).

Tettigonia octoguttata, Coqueb. Ill. Icon. Ins. i. p. 34, t. 9, f. 1 (1799).

Oxypleura sanguiflua, Walk. List Hom. i. p. 24, n. 6 (1850); Ins. Saund. Hom. p. 2 (1858).

Pœcilopsaltria octoguttata, Stål, Berl. Ent. Zeit. x. p. 168, n. 1 (1866).

Platypleura octoguttata, Butl. Cist. Ent. i. p. 192, n. 35 (1874); Atkins. J. A. S. Beng. vol. liii. p. 216, n. 13, (1885); ibid. lv. p. 148, n. 8 (1886).

Head and eyes ochraceous; front, a transverse fascia between the eyes, and a spot behind the eyes black; pronotum castaneous, the posterior and lateral margins ochraceous, two spots on anterior edge of posterior margin and the area of the lateral margins black; mesonotum ochraceous, with five large black spots, four obconical on anterior margin—the central two shortest—and one large discal, narrowed and pointed anteriorly and widened and dilated posteriorly, and a black spot on each side of the cruciform elevation. Abdomen blackish, clothed with greyish pile; tympanal coverings anteriorly dull ochraceous. Head beneath, sternum, legs and opercula dull ochraceous; a transverse fascia between the eyes—containing a small ochraceous spot at centre and each side of face—central sulcation and posterior margins of face, some sternal spots, basal margins of opercula and apex of rostrum black; tibiæ more or less castaneous; abdomen beneath black.

Tegmina with about basal half opaque, remainder hyaline, costal membrane ochraceous, with two dark brown spots, venation ochraceous, a basal patch, a broad transverse fascia at about one-third from base, a waved fascia united to the previous fascia at apex of radial area and apex of lower ulnar area, which is again united to a narrow waved fascia at bases of first five apical areas, and a double series of small spots near apices of longitudinal veins to apical areas, dark chocolate-brown; between these basal fasciæ are a narrow transverse fascia, and a spot near apex of radial area, which are creamy opaque-white; wings dark chocolate-brown with basal sanguineous rays, and the outer margin—not extending to anal angle—pale white hyaline.

* One wishes that an entomologist could be sent to this island with instructions somewhat similar to those given by Prof. Ward to Mr. Hornaday—"Plunder Ceylon. Rake the island over as with a fine-toothed comb; catch everything you can in three months' time, and send me the best of it."—Hornaday, W. J., 'Two Years in the Jungle,' p. 248.

Var. a.—Wings with a subcostal ochraceous patch.

Var. b.—Wings ochraceous, the outer area only chocolate-brown, and the sanguineous rays entirely absent.

Long. excl. tegm. ♂. 24 to 26 millim. Exp. tegm. 73 to 80 millim.; exp. pronot. angl. 14 millim.

Hab.—Continental India: Panjab—Wazeerabad* (Hearsay—Brit. Mus.); North Bengal (Campbell—Brit. Mus.); Naini Tal (Stock. Mus.); Rajpootana—Mount Aboo (Calc. Mus.); Jodhpoor (Calc. Mus.); Sambalpoor (Calc. Mus.); Karachi (Calc. Mus.); Bombay (Leith—coll. Dist.); Karwar (coll. Dist.); Coimbatore (Walhouse—Brit. Mus.); Neelgiri Hills—Southern Slopes (Hampson—coll. Dist.); Shivarai Hills (Bidie & Morris—coll. Dist.). Ceylon (Calc. Mus.).

This is decidedly the most abundant and widely spread species of *Pœcilopsaltria* in Continental India, to which and Ceylon it appears to be confined. Besides the distinct varieties recorded above, even typical examples vary much in the shape and extent of the chocolate-brown markings to the tegmina.

10. Pœcilopsaltria hampsoni. (Tab. I., fig. 8, *a*, *b*.)

Pœcilopsaltria Hampsoni, Distant, Ann. & Mag. Nat. Hist. ser. 5, vol. xx. p. 226 (1887).

♀. Head luteous; front with a number of black linear markings; vertex with a transverse, narrow, black fascia between the eyes, and with a central black spot containing the ocelli. Pronotum greenish-ochraceous, the disk with the following black markings:—a central I-shaped spot, on each side of which are some oblique linear markings; the lateral dilated margins are black, and the anterior margin is narrowly—and the posterior margin broadly—dull reddish ochraceous. Mesonotum greenish-ochraceous, with the following black spots:—four obconical from anterior margin, of which the central two are smallest; and a large, oblong, discal spot, with a small partly rounded spot on each side of it; the basal cruciform elevation dull reddish ochraceous. Abdomen above black. Head beneath, with the face black, marked with luteous transverse lines; sternum somewhat ochraceously pilose; abdomen beneath black, the segmental margins ochraceous, the anal appendage of the same colour; legs castaneous, streaked or spotted with piceous and luteous. Rostrum black, the basal portion luteous.

Tegmina pale hyaline, with the venation brown, the costal membrane greenish, the basal third somewhat opaque, with darker transverse markings and small basal black markings; a double irregular series of dark brown spots cross the tegmina at about centre, a dark brown fascia at bases of upper apical areas, a few small subapical spots and some small marginal spots of the same colour. Wings brownish-ochraceous, paler at apex than at base and very pale across centre, with a white marginal spot near anal angle; the venation brown.

The rostrum reaches the basal abdominal segment; the lateral margins of the pronotum are distinctly angulated; the face is robustly gibbous, with a profound central longitudinal sulcation; the posterior tibiæ have three distinct spines on each side of apical half.

Long. excl. tegm. ♀. 23 millim. Exp. tegm. 70 millim.; exp. pronot. angl. 13 millim.

Hab.—Continental India: Neelgiri Hills, northern slopes, 3500 & 5000 feet (Hampson—coll. Dist.).

We are indebted to the exertions of Mr. G. F. Hampson for the discovery of this very interesting species. It was first captured in the month of May, and although a fair series of specimens were collected, they all belonged to the female sex, and the male is consequently still desiderated.

* For the spelling of Indian localities I follow G. Smith's 'Student's Geography of India.'

11. Pœcilopsaltria cœlebs. (Tab. I., fig. 12, *a*, *b*.)

Platypleura cælebs, Stål, Trans. Ent. Soc. Lond. ser. 3, vol. i. p. 573 (1863); Butl. Cist. Entom. vol. i. p. 188, n. 23 (1874); Atkins. J. A. S. Beng. vol. liii. p. 213, n. 7 (1885); ibid. lv. p. 146 (1886).

Head ochraceous; front, excluding a central spot, margins of vertex between front and eyes, and a transverse fascia between the eyes black; pronotum pale castaneous, the posterior and lateral margins ochraceous; mesonotum castaneous, with four large obconical black spots on anterior margin, the central two smallest, a central discal elongate black spot and a small black spot in front of each anterior angle of the basal cruciform elevation; abdomen black, the tympanal coverings, and the posterior segmental margins ochraceous. Head beneath, sternum, legs, rostrum and opercula ochraceous; a transverse fascia between the eyes—enclosing a pale spot on face—inner margins of eyes, posterior margin of face and apex of rostrum black: abdomen beneath castaneous, with the posterior segmental margins and the apex ochraceous.

Tegmina with about the basal half creamy opaque, shaded with pale fuscous, and more or less outwardly defined by an indistinct curved pale fuscous fascia, remaining area hyaline, costal membrane and venation dark ochraceous, the transverse veins at the bases of the second, third, fourth, fifth and seventh apical areas slightly infuscated; wings stramineous for about two-thirds their area from base, this coloration outwardly margined with fuscous, remaining area pale hyaline, the venation dark ochraceous.

The rostrum extends a little beyond the inner angles of the opercula, which are somewhat well separated.

Long. excl. tegm. 22 to 23 millim. Exp. tegm. 64 to 68 millim. Exp. pronot. angl. 11 millim.

Hab.—Continental India: Dekhan (coll. Dist.). China: Chusan (Calc. Mus.).

Three specimens are contained in the British Museum, but they are only labelled "East India." The species is probably widely distributed, but appears to be scarce in collections.

12. Pœcilopsaltria nicobarica. (Tab. I., fig. 3, *a*, *b*.)

Platypleura nicobarica, Butler, Ann. & Mag. Nat. Hist. ser. iv. vol. xix. p. 311 (1877); Atkins. J. A. S. Beng. vol. liii. p. 213, n. 5 (1885); ibid. lv. p. 147, n. 6 (1886).

♀. Head and pronotum brownish-ochraceous; anterior margin of front, a broad fascia between the eyes and the edges of the lateral dilated margins of the pronotum black; mesonotum with four obconical black spots on anterior margin, the central two shortest, a central narrow lanceolate spot and a small spot in front of each anterior angle of the cruciform elevation, black; abdomen blackish, the posterior segmental margins ochraceous. Head beneath, sternum, legs and rostrum ochraceous; a narrow fascia between the eyes extending across anterior margin of face, central sulcation and posterior margin of face, black; abdomen beneath very dark castaneous, the posterior segmental margins ochraceous.

Tegmina with about the basal half ochraceous and opaque, with two spots on costal membrane, a spot in basal cell, and two in radial area dark brownish; remaining area of tegmina pale hyaline; a pale brown fascia not quite crossing tegmina a little beyond the opaque area, an oblique brownish fascia extending across the apices of the upper three ulnar areas, and an irregular double series of brown spots near the apices of the longitudinal veins to apical areas; wings ochraceous, the outer margins and a transverse discal fascia near apex dark brownish, a spot on outer margin a little before inner angle creamy white.

Var. a. (Tab. I., fig. 17.)

Platypleura distincta, Atkinson, J. A. S. Beng. vol. liii. p. 233 (1885).

Differing from typical examples by the somewhat smaller and less intense black markings on the upper side of head and thorax, and by the wings having the subapical discal fascia fused with the outer margin.

Long. excl. tegm. 25 millim. Exp. tegm. 76 millim. Exp. pronot. angl. 14½ to 15 millim.

Hab.—Nicobar Islands (Brit. Mus.—Calc. Mus.—coll. Dist.).

We have no record as to the precise island, or islands, of the Nicobar group from which the specimens alluded to above have been derived. The species is allied to the following,—*P. fulvigera*, Walk.,—but differs structurally by the width of the pronotal angles.

According to my note-book, I once saw a specimen received from the Andaman Islands, but without more precise information it is unsafe to add that very probable habitat.

13. Pœcilopsaltria fulvigera. (Tab. I., fig. 2, *a*, *b*, *var.*)

Platypleura fulvigera, Walker, List Hom. i. p. 9, n. 14 (1850); Butl. Cist. Ent. i. p. 185, n. 9 (1874); Waterh. Aid Ident. Ins. t. 152, f. 6.

Pœcilopsaltria fulvigera, Stål, Berl. Ent. Zeitschr. x. p. 169 (1866); Öfv. Vet-Ak. Förh. 1870, p. 707, 1.

♀. Head and pronotum ochraceous; some linear markings on front, a broken narrow fascia between eyes, and the edges of the lateral dilated pronotal margins, black; mesonotum pale castaneous, with four black obconical spots on anterior margin, of which the two central ones are smallest, a narrow lanceolate discal spot (not seen on specimen figured), and a small black spot in front of each anterior angle of the basal cruciform elevation; abdomen black, the posterior segmental margins ochraceous. Head beneath, sternum, legs and rostrum ochraceous; a narrow fascia between eyes containing a small pale spot on anterior margin of face, inner margin of eyes and apex of rostrum black; abdomen blackish, with the posterior segmental margins and the anal appendage ochraceous.

Tegmina with the basal half ochraceous and opaque, with a spot at base followed by a transverse fascia and a few scattered spots, and a spot on costal membrane, dark brownish; remaining area pale hyaline, with the venation, a broad transverse fascia at end of opaque basal area and a short oblique fascia on apices of first and second ulnar areas dark brownish; the transverse vein at apex of third ulnar area infuscated, and some minute brownish spots near the apices of the longitudinal veins to apical areas; wings ochraceous, the inner posterior margin and a short discal fascia near apex dark brownish.

Var. a.—Wings having the subapical discal fascia fused with the outer margin, as in the specimen figured.

Long. excl. tegm. ♀. 23 millim. Exp. tegm. 68 millim. Exp. pronot. angl. 13 millim.

Hab.—Philippine Islands (Brit. Mus.—Stock. Mus.); Manilla (coll. Sign.). Celebes (Meyer—Dresden Mus.).

This species, which, as already pointed out, is allied to the preceding species, *P. nicobarica*, also varies in the same way as that species by the sometimes fused dark markings of the wings. The Philippine Islands are evidently the head-quarters of the species.*

14. Pœcilopsaltria sphinx. (Tab. VIII., fig. 16, *a*, *b*, *c*.)

Platypleura sphinx, Walker, List Hom. i. p. 13, n. 18 (1850); Butl. Cist. Ent. i. p. 188, n. 20 (1874); Atkins. J. A. S. Beng. vol. liii. p. 213, n. 6 (1885); ibid. lv. p. 145, n. 3 (1886).

This species is only known to the writer by the types in the British Museum; the original description is therefore here given:—

"Body pale tawny, tinged with white, clothed with short, whitish hairs; head narrower than the fore-chest; crown adorned with two brown bands; face very slightly convex; mouth tawny, with a brown

* A considerable number of *Cicadidæ* are recorded from these islands, Stål, by the aid of Semper's collection, having enumerated or described twenty-eight species, which does not include some others described by Walker. At Zamboanga, Lord Geo. Campbell describes the woods as "alive with the thrilling buzz of large Cicadas, rejoicing in their new skins, while the old ones were still sticking under leaves and on the trunks of trees. You thought you had caught a Cicada asleep, but it was only his empty outside."—'Log-letters from the Challenger,' 1st edit. p. 238.

tip, reaching the hind-hips; eyes not prominent; feelers dark tawny; fore-chest broadest in the middle; hind-scutcheon much widened, and almost angular on each side; scutcheon of the middle-chest adorned with four obconical dark brown marks, the outer pair long, the inner pair short and pointing towards two dots of the same colour; hind border very slightly excavated; abdomen obconical, a little longer than the chest; opercula close; drums of moderate size, nearly meeting, less than half the length of the abdomen; legs pale tawny; tips of the shanks darker; claws pitchy, tawny at the base; fore-thighs armed with tawny teeth, which hardly rise above the surface; hind shanks beset with tawny spines whose tips are pitchy; fore wings whitish, brownish-tawny towards the base, and having elsewhere some irregular pale brown marks, which, here and there, include white spots; veins yellow; hind-wings brown, mostly yellowish-white towards the base, and having a large yellowish-white spot in the disk, white at the tips, and adorned with a white spot on the hind border, which elsewhere is brown; flaps yellowish-white with broad brown borders.

"Second marginal areolet as long as the first; first cross-vein nearly straight, slightly slanting, forming a very slightly obtuse angle, parted from the second by about five times its length; second nearly straight, very slanting, forming a very obtuse angle, much more than twice the length of the first; third nearly straight, very slanting, forming a very acute angle; fourth slightly curved, slanting, forming a slightly acute angle, a little more than half the length of the third; fifth curved, forming a slightly acute angle. In the left wing of an insect of this species the third cross-vein is not more than half the length of that in the other wing."*

Long. excl. tegm. ♀ 16 millim. Exp. tegm. 46 millim. Exp. pronot. angl. 8 millim.

Hab.—Continental India: North Bengal (Campbell, Warwick—Brit. Mus.).

A female specimen of this species contained in the collection of the British Museum is here figured, and fig. 16, *b*, exhibits the under surface of the abdomen—showing opercula—of a male specimen in the same collection.

DD. Tegmina nearly altogether opaque.

15. Pœcilopsaltria semusta. (Tab. I., fig. 10, *a*, *b*.)

Pœcilopsaltria semusta, Distant, Ann. & Mag. Nat. Hist. ser. 5, vol. xx. p. 227 (1887).

♂. Body dull ochraceous; head with the front and a broad fascia between the eyes black, the last containing the ocelli and two small ochraceous spots; pronotum with two central, discal, somewhat triangular, black spots, the lowermost largest and broadest, on each side of which are three narrow, oblique, black fasciæ, or furrows, the lateral ampliated margins somewhat darker outwardly. Mesonotum with a large, black, central spot on anterior margin connected with the black margin of the basal cruciform elevation; on each side of this central spot is a large, black, obconical spot, which nearly crosses the disk; abdomen above dull castaneous, the segmental margins ochraceous. Head beneath with a broad black fascia between the eyes; face ochraceous, the upper portion black, enclosing an ochraceous spot, the central sulcation and transverse striations bright castaneous; body beneath ochraceous, with darker shadings; legs more or less tinged with castaneous; abdomen beneath as above; opercula brownish ochraceous, with the margins paler; rostrum ochraceous, with the apex pitchy.

Tegmina brownish, with the following creamy markings:—a short, macular, transverse fascia near base; a broad, irregular, transverse, macular fascia near centre; between the fascia and apex are two spots near post-costal area, each divided by a vein, and an outer irregular series of submarginal spots; at the bases of apical areas the transverse veins are shaded with dark castaneous. Wings brownish, some basal streaks and central macular markings ochraceous; marginal fringe very pale ochraceous.

The rostrum about reaches the apex of the basal abdominal segment; the opercula are angularly rounded, do not overlap, and are well separated from each other; the face has a central, deep and broad,

* The description of these areolets is valueless. They are not altogether constant in form, and, if they were, afford little clue to the identification of species.

longitudinal sulcation extending through its lower two-thirds, and it is also transversely striated to that extent.

Long. excl. tegm. 18 millim. Exp. tegm. 55 millim. Exp. pronot. angl. 10 millim.

Hab.—China: Chusan (Calc. Mus.).

I have only seen one specimen of this well-marked and interesting species.

16. Pœcilopsaltria westwoodi. (Tab. I., fig. 18, *a*, *b*.)

Platypleura Westwoodii, Stål, Trans. Ent. Soc. Lond. ser. 3, vol. i. p. 571 (1863); Butl. Cist. Ent. i. p. 186, n. 13 (1874).

I do not possess this species, and the following is Stål's description:—

"Remote sericea, pallide olivaceo-virescens vel flavescens, macula media fasciaque utrimque laterali verticis, macula vel fascia lata genarum, maculis nonnullis minutis thoracis, maculis quattuor basalibus, duabus discoidalibus minoribus pone medium maculaque sublaterali oblongo-obtriangulari scutelli, fasciis basalibus segmentorum abdominis, dorsalibus latis, ventralibus angustis, tarsis anterioribus totis basique tarsorum posticorum, vitta exteriore tibiarum anticarum nec non alis nigro-fuscis aut nigris, harum fascia latissima irregulari media, limbum posteriorem haud attingente, limboque testaceo-flavescentibus; tegminibus fuscescentibus, fascia obliqua prope basin sordide testaceo-flavescente, macula subcostali longe ante medium maculaque discoidali pallide testaceo-flavescentibus, pellucidis, maculis nonnullis majusculis pone medium in seriem transversam subcontinuam dispositis, macula subcostali prope apicem, maculisque quattuor marginis apicalis vitreis, anastomosibus obscurius fusco-marginatis, areis apicalibus apice et prope apicem ad venas longitudinales maculis parvis geminis obscure fuscis notatis ♀.

"*Pl. phalænoidi*, Walk.,* a qua *Pl. interna*, Walk.,* haud distingui potest, quoad formam thoracis affinis, aliter picta; differt præterea statura minus crassa, capite proportionaliter latiore, ocellis plus duplo longius ab oculis quam inter se remotis, frontis sulco longitudinali minus profundo, costa basin versus minus dilatata, maculis vitreis tegminum multo paucioribus et minoribus, genitalibus feminæ magis productis, metasternique basi inter pedes intermedios magis producta."

Long. excl. tegm. 25 millim. Exp. tegm. 78 millim. Exp. pronot. angl. 15 millim.

Hab.—Ceylon (Hope Coll., Oxford—Calc. Mus.).

The male specimen here figured is in the collection of the Calcutta Museum. It is another of those rare species in Museums, which rather show the want of interest felt in these insects by collectors than the scarcity of the species itself.

17. Pœcilopsaltria hilpa. (Tab. I., fig. 6, *a*, *b*.)

Platypleura hilpa, Walker. List Hom. i. p. 6, n. 10 (1850); Butl. Cist. Ent. i. p. 185, n. 6 (1874); Atkins. J. A. S. Beng. vol. lv. p. 149, n. 12 (1885).

Platypleura fenestrata, Uhler, Proc. Acad. Nat. Sci. Philad. p. 282 (1861).

Pœcilopsaltria hilpa, Stål, Berl. Ent. Zeitschr. x. p. 169 (1866).

Head and pronotum dark ochraceous; a curved fascia on front, a spot above insertion of antennæ, and a transverse fascia between eyes, black; pronotum with a central discal longitudinal fascia, widened posteriorly, black, the extreme lateral margins also more or less infuscated; mesonotum with four obconical spots on anterior margin, the central two shortest, a central longitudinal lanceolate spot, and a small spot in front of each anterior angle of the basal cruciform elevation, black; abdomen black, the posterior segmental margins a little paler, the tympanal coverings ochraceous; head beneath, sternum, opercula, legs and rostrum ochraceous; a subquadrate black spot with its centre ochraceous on anterior margin of head between eyes and face; face black, its anterior margin ochraceous, the edges of the

* = *Platypleura repanda*, Linn.

transverse striations castaneous, posterior margins of face, disk of mesosternum and basal margins of opercula blackish; abdomen beneath very dark castaneous, greyishly pilose, the posterior segmental margins pale castaneous.

Tegmina nearly totally opaque, pale brownish, the costal membrane and venation ochraceous; basal area and an ill-defined transverse or macular fascia crossing centre, pale creamy ochraceous, a transverse fascia at about one-third from apex and the marginal fringe creamy-white; a double series—sometimes connected—of small pale brownish spots near the apices of the longitudinal veins to apical areas. Wings pale ochraceous, outer margins, excluding anal area, and an oblique discal fascia—connected with the marginal fascia—dark brownish, a marginal spot near anal area pale creamy-white.

The opercula meet at inner angles, but by a malformation they do not do so in the specimen figured (fig. 6, *b*); the rostrum just passes the posterior coxæ.

Long. excl. tegm. 20 to 22 millim. Exp. tegm. 60 to 63 millim. Exp. pronot. angl. 10½ millim.

Hab.—China (Churchill—coll. Dist.); Hong Kong (Bowring—Brit. Mus.); Chusan (Calc. Mus.).

This species seems clearly located in China, though I possess a specimen labelled "India," to which habitat I bestow no credence whatever. In a little-worked family like the *Cicadidæ*, I have frequently acquired specimens with most erroneous locality labels, and the only surprise is that the older authors were not in this way more frequently led astray.

18. Pœcilopsaltria ciliaris. (Tab. I., fig. 4, *a*, *b*.)

Cicada ciliaris, Linnæus, Syst. Nat. ed. x. i. p. 436, n. 12 (1758); Mus. Lud. Ulr. p. 155, n. 2 (1764); Syst. Nat. ed. xii. 1, 2, p. 706, n. 8 (1767); Oliv. Enc. Méth. v. p. 757, n. 52 (1790); Germ. in Thon. Ent. Arch. ii. 2, p. 2, n. 18 (1830); Germ. Silb. Rev. Ent. ii. p. 78, *b* (1834).

Cicada ocellata, De Geer, Mém. iii. p. 220, n. 16, t. 33, f. 2, 3 (1773); Oliv. Enc. Méth. v. p. 751, n. 21 (1790).

Cicada varia, Oliv. Enc. Méth. v. p. 756, n. 44 (1790).

Tettigonia marmorata, Fabr. Syst. Rhyng. p. 38, n. 24 (1803).

Cicada marmorata, Germ. in Thon. Arch. ii. 2, p. 2, n. 17 (1830).

Platypleura arcuata, Walk. Ins. Saund. Hom. p. 1 (1858); Butl. Cist. Ent. i. p. 184, n. 4 (1874).

Platypleura catocaloides, Walk. Journ. Linn. Soc., Zool. vol. x. p. 82, n. 1 (1867); Butl. Cist. Ent. i. p. 184, n. 3 (1874).

Platypleura ciliaris, Stål, Hem. Fabr. ii. p. 3, n. 2 (1869); Öfv. Vet.-Ak. Förh. 1870, p. 707, n. 1; Butl. (part), Cist. Ent. i. p. 185, n. 7 (1874); Atkins. J. A. S. Beng. vol. lv. p. 144, n. 2 (1886).

Platypleura varia, Butl. Cist. Ent. i. p. 184, n. 5 (1874); (excl. habitat).

Stoll, Cig. fig. 147.

Body above greenish-ochraceous; margins of front, area of ocelli, a central longitudinal fascia, two short curved discal fasciæ and the oblique furrows to pronotum, black; mesonotum with four, sometimes six, obconical spots to anterior margin, the central two small, the outer two sometimes broken, thus forming four spots (as in specimen figured), a central lanceolate spot and a small spot in front of each anterior angle of the basal cruciform elevation, black; posterior segmental margins and the anal appendage black. Body beneath greenish-ochraceous, sometimes dark castaneous; a spot at base of face, margins of apex of face, apices of the rostrum and tarsi, black.

Tegmina greenish- or brownish-ochraceous, opaque, and greyishly pilose; two spots on costal membrane, an oblique transverse fascia near base, two converging fasciæ near apex and a double or fused series of small spots near apices of longitudinal veins to apical areas dark brownish. Wings ochraceous, the outer margins, an oblique discal fascia near apex (sometimes connected with base), and sometimes the margins of the anal area chocolate-brown.

The opercula in the male very slightly overlap at their inner angles; the rostrum reaches, but does not pass the posterior coxæ.

Long. excl. tegm. 21 to 25 millim. Exp. tegm. 62 to 70 millim. Exp. pronot. angl. 11 to 12 millim.

Hab.—Cochin China (coll. Dist.). Philippine Isles (Semper—Stock. Mus.); Ternate (V. Lansberg—Leyden Mus.). Moluccas: Amboyna (Wallace—Brit. Mus.; Beccari—Genoa Mus.; Hoedt—Leyden Mus.; Forbes—coll. Dist.); Ceram (Bruss. Mus.; Wallace—Brit. Mus.).

This species is closely allied to the preceding, *P. hilpa*, from which it differs by the much darker and more opaque tegmina, but the structural differences are very slight, and I fully expect a long series of specimens from other localities will prove both to be but varietal forms of one species. Typical *P. hilpa* is found in China, and typical *P. ciliaris* in the Moluccas, whilst my specimen, derived from Cochin China, is both intermediate in locality and somewhat intermediate in appearance.

Mr. Butler, in his "Monographic list" of the species of *Platypleura*, has fallen into obscurity over this species, for he keeps the *P. catocaloides*, Walk., and *P. arcuata*, Walk., as distinct species, though he states that the last is probably only a "local form" of the first. But as *P. arcuata* was described nine years before *P. catocaloides*, in classification the position should be reversed. Again, Mr. Butler has applied the name *P. ciliaris*, Linn., to an African species, apparently in ignorance that Stål, five years previously, had, in his 'Hemiptera Fabriciana,' identified and localised it as above.

19. Pœcilopsaltria andamana. (Tab. I., fig. 9, *a*, *b*.)

Platypleura andamana, Distant, Trans. Ent. Soc. Lond. 1878, p. 174; Atkins. J. A. S. Beng. vol. liii. p. 214. n. 8 (1885); ibid. vol. lv. p. 146, n. 5 (1886).

Platypleura roepstorffii, Atkins. J. A. S. Beng. vol. liii. p. 214, n. 9 (1885).

Tawny, pubescent; a spot on each side of front, and a transverse fascia between the eyes, black; eyes dark shining castaneous; pronotum with two very small foveate pitchy spots placed close together near centre of posterior margin; mesonotum with two large obconical spots on anterior margin, and having between them on disk a narrow lanceolate longitudinal spot, a small spot in front of each anterior angle of the basal cruciform elevation, and an obscure fasciate spot on each side of the central obconical spots, black; abdomen blackish, the posterior segmental margins ochraceous and strongly and palely pilose; body beneath and legs brownish ochraceous.

Tegmina brown, opaque, with pale semi-opaque markings, especially on the apical half; basal third thickly covered with pale pubescence, and containing five dark brown spots, situate two in the radial area, one at base of third, and two in fourth ulnar area; remainder of tegmina less pubescent, with a number of greyish-white spots, of which the most prominent are a transverse series crossing tegmina at end of apical area, and another waved series commencing about middle of upper ulnar area, *where they are very distinct beneath*, the apical areas greyish-white; a double row of small brown spots on and near the apices of the longitudinal veins to the apical areas; a dull whitish spot on inner angle of outer margin, which *is very prominent beneath*. Wings very pale castaneous, with a dark brown outer margin, and some suffused dark brown discal streaks.

Long. excl. tegm. 22 to 24½ millim. Exp. tegm. 76½ to 84 millim. Exp. pronot. angl. 14 millim.

Hab.—Andaman Islands (Calc. Mus., Stock. Mus., coll. Dist.).

The figure is taken from a male specimen in the collection of the Calcutta Museum, the original description being that of the female sex only. It is a somewhat difficult species to accurately describe, but it is very distinct and easily recognised. According to present knowledge, it is quite confined to the Andaman Islands.

Two species now remain to be enumerated, which are only known to the writer by the descriptions of the same, and in one case by a very indifferent figure.

20. Pœcilopsaltria affinis.

Tettigonia affinis, Fabricius, Syst. Rhyng. p. 37, n. 22 (1803).
Cicada affinis, Germ. in Thon. Ent. Arch. ii. 2, p. 1, n. 6 (1830); Silb. Rev. Ent. ii. p. 79, *d* (1834).
Platypleura affinis, Walk. List Hom. i. p. 3, 7 (1850).
Pœcilopsaltria affinis, Stål, Hem. Fabr. ii. p. 4, n. 1 (1869); Atkins. J. A. S. Beng. vol. liii. p. 211, n. 2 (1885); ibid. lv. p. 143, n. 1 (1886).

The following is Stål's description, derived from an examination of the type :—

"Pallide olivaceo-flavescens vel virescens; loris, margine excepto, clypeo, carina excepta, maculis parvis duabus apicalibus lineisque duabus transversis versus basin frontis, fascia genarum, macula ocellos includente, maculis duabus ad oculos lineaque transversa interdum oblitterata verticis, linea latiuscula intramarginali laterali thoracis, maculis quattuor basalibus, mediis majusculis, vitta obliqua laterali angusta, posterius abbreviata, maculisque tribus parvis posterioribus scutelli, limbo basali segmentorum dorsi abdominis maculaque laterali segmentorum quattuor ultimorum ventris nigris; tegminibus opacis, flavo-albidis, fusco-nebulosis, macula media areæ radialis maculaque medium arearum ulnarium primæ et secundæ occupante pallidioribus, areis apicalibus, exceptis area tota octava et partibus basali et apicali areæ primæ, vitreis, decoloribus, venis ulnaribus apice et prope apicem utrimque macula parva fusca notatis; alis lutescentibus, vitta angusta parteque apicali extus late, intus angustius obscure fuscis, hac parte ad venas, limbo enervi areaque anali dilute lutescentibus.

"Caput obtusum, fronte leviter convexa; parte verticis apicali laterali, inter frontem et oculos jacente; frontis parte subbasali latitudine subæquali; clypeo apice sinuato-truncato. Ocelli ab oculis quam inter se plus duplo longius remoti. Thorax lateribus valde angulato-dilatatus, angulis suberectis, apice imo rotundatis. Latera area ulnaris interioris pone medium subparallela. Metasternum elevatum, medio longitrorsum impressum, antice sinuatum. Limbus enervis tegminum et alarum æque latus.

"Long. corp. 23 millim. Exp. tegm. 77 millim.

"Patria: India orientalis (Mus. Lund.)."

21. Pœcilopsaltria capitata.

Cicada capitata, Olivier, Enc. Méth. v. p. 754, 34, t. 112, f. 10 (1790).
Stoll, Cig. p. 76, t. 19, f. 103.

It is quite possible that Olivier only described this species from Stoll's figure :—

"Elle a un pouce de longeur, depuis la tête jusqu'à l'anus, et trois et demi de largeur, lorsque les ailes sont étendues. Elle est noirâtre. La tête est verdâtre, très-large; les yeux sont gris; les petits yeux lisses sont rouges. Le corcelet est brun antérieurement. Les élytres et les aîles sont transparentes, avec un peu de gris; les élytres ont deux bandes noirâtres, transversales; la plus près de l'extrémité des élytres part de leur bord extérieur, et n'atteint pas le bord interne: on voit près de l'extérieur de petites taches ou quelques traits noirâtres. L'abdomen est conique et pointu. Les pattes sont brunes."

Measurements taken from Stoll's figure :—

Long. excl. tegm. 32 millim. Exp. tegm. 100 millim. Exp. pronot. angl. 17 millim.
Hab.—"Ceylon."

I have not reproduced Stoll's figure, as it is evidently of an imperfect nature, and Olivier's figure is merely a copy of that of Stoll. It is clearly allied to the *P. subrufa*, Walk.

Genus PLATYPLEURA.

Platypleura, Amyot & Serville, Hist. des Hém. p. 465 (1843); Stål, Hem. Afr. vol. iv. pp. 2 & 9 (1866); Atkins. J. A. S. Beng. vol. lv. p. 144 (1886).

Oxypleura, Amyot & Serville, Hist. des Hém. p. 469 (1843).

General characters of *Pœcilopsaltria*, but distinguished from that genus by having the head, including eyes, not or scarcely broader than the base of the mesonotum.

This genus has a wide and almost conterminous distribution with that of *Pœcilopsaltria*. It is found in tropical and subtropical Africa, where it is most abundant and largely represented, exists more sparingly in the Oriental region, and enters the Palæarctic fauna at Japan. My catalogue of this genus enumerates thirty-four species, but of these five only are found in this fauna, thus being in marked contradistinction to the preceding genus, as *Platypleura* is focussed in the Ethiopian, as *Pœcilopsaltria* was shown to be in the Oriental region. Here we have two genera closely allied, but separated by the relative widths of the head and mesonotum. In Africa the more contracted head is in the ascendancy, and *Platypleura* is the dominant genus, whilst in the Oriental region the positions are reversed, and *Pœcilopsaltria*, with the widened head, reigns supreme. Such facts find their place in the ever-increasing evidence for what is usually called the "Darwinian theory," and although their bearing or explanation is not at once seen, they become part and parcel of the great "case" which is now being so widely recognised by naturalists and students of all orders and of diverse views.

A. *Wings, excluding margin, opaque.*

1. Platypleura repanda. (Tab. I., fig. 7, *a*, *b*.)

Cicada repanda, Linnæus, Syst. Nat. i. 2, p. 707, n. 17 (1767); Mus. Lud. Ulr. p. 159, n. 6 (1764); Gmel. ed. Syst. Nat. i. 3, p. 2097, n. 17 (1782); Oliv. Enc. Méth. v. p. 754, n. 36 (1790); Germ. Thon. Arch. ii. p. 220 (1830); Silb. Rev. Ent. ii. p. 78 (1834).

Tettigonia repanda, Fabr. Sp. Ins. ii. p. 321, n. 16 (1781); Mant. Ins. ii. p. 267, n. 20 (1787); Ent. Syst. iv. p. 23, 24 (1794); Syst. Rhyng. p. 41, n. 39 (1803).

Fidicina? repanda, Walk. (part), List Hom. i. p. 90, n. 22 (1850).

Platypleura phalænoides, Walk. List. Hom. i. p. 4, n. 9 (1850); Butl. Cist. Ent. i. p. 186, n. 11 (1874); Stål, Öfv. Vet. Ak. Förh. 1862, p. 480; Atkins. J. A. S. Beng. vol. liii. p. 211, n. 3 (1885).

Platypleura interna, Walk. List Hom. iv. p. 1119, n. 30 (1852).

Platypleura repanda, Atkins. J. A. S. Beng. vol. lv. p. 150, n. 14 (1886); Dist. Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 453 (1888).

Head, pronotum, and mesonotum greenish-ochraceous, with the following black markings:—head with a spot on each side of base of front, a narrow transverse waved fascia between eyes, and some spots on disk of vertex; pronotum with a central longitudinal fascia, widened posteriorly, some curved fasciæ behind eyes, and the anterior portion of the dilated lateral margins; mesonotum with four obconical spots on anterior margin—the central ones shortest—a lanceolate central discal spot and a small spot in front of each anterior angle of the basal cruciform elevation. Abdomen blackish, clothed with yellowish pile, and the posterior segmental margins ochraceous. Head and sternum beneath thickly clothed with yellowish pile; the longitudinal sulcation, and some of the transverse striations to face, black; legs pale castaneous, femora with a dark spot at base and apex; opercula black, the outer margin narrowly ochraceous; abdomen beneath black, clothed with yellowish pile.

Tegmina with basal half opaque, greenish-ochraceous; two fuscous spots on costal membrane, two in radial area enclosing a semihyaline spot, a spot of the same colour beneath apex of radial area enclosing two very small semihyaline spots and a large irregular transverse fuscous fascia crossing tegmina beyond radial area, enclosing two semihyaline spots situate in the third and fourth ulnar areas, and another similar spot situate in the lower apical area; remaining area of tegmina hyaline, with the venation greenish-ochraceous, and a large fuscous subapical fasciate spot extending across the apices of the first, second and third ulnar areas, stretching outwardly across the third and fourth apical areas and then continued to apex, and a double series of small fuscous irregular-shaped spots on and near the apices of the longitudinal veins to apical areas. Wings opaque, ochraceous, the apical area and apex of anal area dark castaneous, outer margin pale hyaline.

The rostrum just passes the inner angles of the opercula, which slightly overlap and are outwardly convex.*

Long. excl. tegm. 21 to 23 millim. Exp. tegm. 68 to 78 millim.

Hab.—Continental India: Kashmeer Valley (Leech—coll. Dist.); North Bengal (Campbell—Brit. Mus.); Sikkim (Calc. Mus. and coll. Dist.); Darjeeling (Calc. Mus.; Stock. Mus.; coll. Dist.); Himalaya (*sic*) (Dohrn—Leyden Mus.); Assam (Warwick—Brit. Mus.); Sylhet (Stainsforth—Brit. Mus.); Seebsagar (Calc. Mus.). Burma: Kakhien Hills (Fea—Genoa Mus.).

Var. a. (Tab. I., fig. 11, *a*, *b*.)

Platypleura assamensis, Atkinson, J. A. S. Beng. vol. liii. p. 212, n. 4 (1884).

Body less robust and smaller in size than is usual in typical specimens, markings of the tegmina much paler in hue.

Hab.—Continental India: Darjeeling (Stock. Mus.). Assam: Seebsager and Naga Hills (Calc. Mus.); Khasi Hills (Chennell—coll. Dist.).

This species has always been found in every collection of *Cicadidæ* examined by the writer that has been derived from the North-Eastern Provinces of Continental India, to which and Burma, its head-quarters at least appear to be confined. The variety, †—*assamensis*, Atkins.,—has also been found in most of the collections where the species was represented by a fair number of specimens.

2. Platypleura kæmpferi.‡ (Tab. I., fig. 14, *a*, *b*.)

Tettigonia kæmpferi, Fabricius, Ent. Syst. iv. p. 23, n. 25 (1794); Syst. Rhyng. p. 41, n. 40 (1803).

Cicada kæmpferi, Walk. List Hom. i. p. 117, n. 34 (1850).

Platypleura kæmpferi, Butl. Cist. Ent. i. p. 189, n. 27 (1874).

Platypleura hyalino-limbata, Sign. Bull. Soc. Ent. Fr. (6), t. 1, p. xlii (1881); Atkins. J. A. S. Beng. vol. lv. p. 150, n. 13 (1886).

Platypleura fuscangulis, Butl. Cist. Ent. i. p. 189, n. 29 (1874).

Head, pronotum, and mesonotum dull ochraceous; head with the following black markings:—a narrow transverse fascia on front, a transverse fascia between eyes, forming a spot at area of ocelli, continued on inner margin of eyes, two small discal spots, and a fasciate spot at anterior lateral angles of vertex; pronotum with a central longitudinal fascia widened anteriorly and posteriorly, the oblique furrows and the lateral dilated margins black; mesonotum with four obconical spots on anterior margin (the central ones

* I have felt it superfluous to describe very fully in words the structural differential characters of the face, rostrum, and opercula, having given diagrams of the same, which are more useful and explanatory.

† In treating other entomologists' "species" as "varieties," I am, of course,—in the absence of breeding experiments,—expressing my own views alone, on the basis of reasons already given (*antea*, p. 3). The value of these specific discussions has long since been exposed by Darwin.

‡ Named after E. Kæmpfer, physician, naturalist, and zoological traveller. He travelled in Persia and various parts of India; but is best known by his 'History of Japan,' which was translated from the original High Dutch by Scheuchzer, and published in two folio volumes in 1728. Kæmpfer was born in 1651 and died in 1713.

shortest), a lanceolate discal spot much widened posteriorly and a spot in front of each anterior angle of the basal cruciform elevation, black. Abdomen black, the tympanal coverings and posterior segmental margins dull ochraceous. Head beneath, sternum, and legs dull ochraceous; central sulcation and posterior margins to face; a fascia between eyes and face, some obscure sternal spots, and a spot at base of opercula, black; abdomen beneath blackish, with the posterior segmental margins ochraceous.

Tegmina with about the basal half opaque and creamy ochraceous, costal membrane with two fuscous spots, and the following fuscous fasciæ:—one basal, one oblique, passing through centre of radial area and terminating at apex of lower ulnar area, and a broad, waved, and irregular fascia commencing at apex of radial area and united with the preceding fascia at apex of lower ulnar area; between the second and third fasciæ are some small fuscous spots and a semihyaline spot near end of radial area, and a similar spot in lower apical area, remainder of tegmina hyaline, with a broad subapical fuscous fascia extending to apex of third ulnar area, an apical fuscous spot and some irregular small fuscous spots on the apices of longitudinal veins to apical areas. Wings dark fuscous, with the outer margins pale hyaline.

The opercula are pale fuscous, with their outer margins ochraceous, overlapping at centre, outwardly convex, but somewhat oblique at their lateral margins; the face is considerably compressed, with the central sulcation broad and somewhat deep.

Long. excl. tegm. 21 to 22 millim. Exp. tegm. 65 to 73 millim.

Hab.—China (coll. Sign.); Shantung (coll. Dist.); Shanghai (Fortune—Brit. Mus.); Chusan (Calc. Mus.). Japan (Bligh—Brit. Mus.; Lewis—coll. Dist.); Yokohama (Genoa Mus.).

This species appears to be quite confined to China and Japan. Mr. Butler has described, under the name of *P. fuscangulis*, a specimen which seems to be but a slight variety of *P. kæmpferi*, and he has given it the habitat of "Sarawak (Wallace)." I think it more than probable that a mistake has been made with this habitat, and I have refrained from adding it to the localities given above.

B. *Wings partly hyaline.*

3. Platypleura nobilis. (Tab. I., fig. 13, *a*, *b*.)

Cicada nobilis, Germar, Thon. Arch. ii. 2, p. 9 (1830); Silberm, Rev. Ent. ii. pt. 11, p. 82, n. 60 (1834).
Cicada hemiptera, Guér. Voy. Belang. Ind. p. 500 (1834).
Platypleura semilucida, Walk. List Hom. i. p. 20, n. 27 (1850).
Platypleura gemina, Walk. List Hom. i. p. 21, n. 28 (1850); Butl. Cist. Ent. i. p. 191, n. 31 (1874).
Platypleura nobilis, Stål, Öfv. Vet. Ak. Förh. 1862, p. 479; Butl. Cist. Ent. i. p. 191, n. 30 (1874); Atkins. J. A. S. Beng. vol. liii. p. 215, n. 11 (1885).

Head, pronotum, and mesonotum brownish, or greenish-ochraceous; head with the area of the ocelli, the inner margin of the eyes, and a short fascia between the ocelli and the eyes, black; pronotum with a rounded black linear fascia behind the eyes and a somewhat triangular spot on inner edge of posterior margin black, the lateral dilated angles infuscated; mesonotum with four obconical spots on anterior margin, the central ones shortest, a lanceolate central spot and a small spot in front of each anterior angle of the basal cruciform elevation, black; abdomen greenish- or brownish-ochraceous, the two basal segments, an obscure central longitudinal fascia, the basal segmental margins, and in the female generally the anal segment, black. Body beneath ochraceous; central sulcation to face, inner margin of eyes, some small and obscure sternal spots, metasternum at base of opercula, lateral margins of abdomen and apex of rostrum, black.

Tegmina with about basal half opaque and very pale creamy-ochraceous, two spots on costal membrane, the basal cell, three spots in radial area—the smallest at base and apex, the largest a little before centre—a large spot on claval area, and a broad oblique fascia commencing at end of radial area and widened inwardly between third and fourth ulnar areas—where it encloses a pale spot—fuscous; remaining

area of tegmina pale hyaline, with an oblique fuscous fascia much waved and angulated near apex and a series of small fuscous spots on and near apices of longitudinal veins to apical areas; wings dark fuscous, with the outer margins, or nearly the apical third, pale hyaline; abdominal area pale hyaline, slightly infuscated.

The rostrum is long, reaching considerably beyond the posterior coxæ and to near the posterior margin of the overlapping interior angles of the opercula.

Var. a. Wings with the fuscous area containing a distinct oblique ochraceous ray.

Long. excl. tegm. 15 to 17 millim. Exp. tegm. 50 to 60 millim.

Hab.—Continental India: Garo Hills (Chennell—coll. Dist.); Samagooting (Calc. Mus.); Munjpoor (Calc. Mus.). Sumatra (V. Langsberg—Bruss. Mus; Hagen—Leyden Mus.). Java (V. Lansberg—Bruss. Mus.; Hagen—Leyden Mus.).

The var. *a* described above appears to be a purely continental race, and I have been unable to trace an example in the large collections from Java and Sumatra which have passed through my hands. *P. nobilis* varies in size, and in the intensity of markings to the tegmina; in some specimens also the basal opaque coloration to the tegmina is of a pale brownish-green hue.

Walker gave as locality for the example he described under the name of *P. gemina* (*supra*), "Cape Good Hope," which has been copied by Butler, but is clearly erroneous.

4. Platypleura insignis. (Tab. I., fig. 15.)

Platypleura insignis, Distant, J. A. S. Beng. vol. xlviii. p. 39, t. 2, f. 2 (1879); Atkins. J. A. S. Beng. vol. liii. p. 216, n. 12 (1885).

Body testaceous, thickly covered with griseous pubescence. Pronotum and mesonotum not differing in structure and markings from *P. nobilis*, Germ., but more pubescent; sternum and abdomen above and beneath also resembling that species; rostrum with the apex pitchy and extending to a little beyond posterior coxæ; legs pale ochraceous, anterior and intermediate tarsi with the base, apex and claws pitchy.

Tegmina pale hyaline, with the venation, costal membrane, costal area, radial area (excepting almost apical half) and a large basal patch transversely terminating from near the apex of the radial vein to the apex of the lower ulnar area, fulvous covered with griseous pubescence; the radial area is hyaline from about its centre (where it is darkest in colour) to near the apex, which is narrowly fulvous and has a subconical fuscous spot on its outer border. A double series of small spots situate on and near the apices of the longitudinal veins to apical areas, and an irregular series of spots situate at the apices of the ulnar areas, black. Wings pale hyaline, with the venation fulvous and with a large black basal patch.

Allied to *P. nobilis*, Germ., but the tegmina and wings are very distinct, the dark opaque portions being much less in each than in that species; the rostrum is also shorter in length, and the opercula do not so much overlap as in *P. nobilis*.

Long. excl. tegm. 15 millim. Exp. tegm. 45 millim.

Hab.—Upper Tenasserim* (Limborg—Calc. Mus.).

The typical specimen described ten years ago, and now contained in the Calcutta Museum, is the only example of this species I have yet seen.

* We possess little information as to the *Cicadidæ* of Tenasserim. What we have comes from the pen of the late Rev. F. Mason, who wrote:—"One of the first objects that attracts the attention of an observer in some localities of the Karen jungles, is a clay tube several inches high, raised over a shaft sunk two or three feet in the ground, over which may be often seen a Karen, bending and inserting the extremities of a long branch of a thorny rattan, which after a few twists is withdrawn, bringing with it a grub that is deemed a great luxury."

"The natives have a distinct name for the grub, and seem to be ignorant that it is the larva of the Cicada. This I was enabled to verify on one occasion by observing the exuviæ of many of their pupæ adhering by claws to the serrated bark of trees, with rents in their backs, out of which the perfect insect had escaped. The Karens, it may be observed, are no more barbarous in their taste than the civilized Greeks, for Aristotle testifies that they were an article of diet, both in their larva and perfect state, and one species is still eaten by American Indians. The most common species is small, and often flies into dwelling-houses."—'Tenasserim; or, Notes on the Fauna, Flora, &c., of British Burma and Pegu,' p. 385 (1852).

5. Platypleura badia. (Tab. VII., fig. 15, *a*, *b*.)

Platypleura badia, Distant, Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 153, t. iv. f. 6, *a*, *b* (1888).

♀. Allied to *P. insignis*, Dist., but differing by the opaque markings to the tegmina being fulvous-brown; the wings have the opaque coloration extending further from the base, where it is simply pale fulvous, and the body is fulvous-brown.

The species, however, is structurally separated by the length of the rostrum, which reaches the base of the anal segment.

Long. excl. tegm. 16 millim. Exp. tegm. 48 millim.

Hab.—Tenasserim: Houngdarau Valley (Fea—Genoa Mus.).

Genus POLYNEURA.

Polyneura, Westwood, Arcan. Ent. vol. i. p. 92 (1842); Amyot & Serville, Hist. des Hém. p. 460, 356 (1843); Stål, Hem. Afr. vol. iv. p. 3 (1866).

Body robust and moderately elongate. Head including eyes about equal in width to the mesonotum at base; ocelli farther apart from eyes than from each other; face moderately convex, slightly prominent above. Pronotum with the lateral margins moderately ampliated and somewhat laminately expanded, obscurely and obtusely toothed near centre. Anterior femora distinctly and robustly spined. Meso- and metasternums sulcated. Tympana covered; opercula short, and broad. Tegmina with the venation dense and furcate, reticulate towards apex, ulnar and apical areas numerous and ill defined.

This genus is still represented by a solitary species, and its area of distribution is confined to Continental India and Burma.

1. Polyneura ducalis. (Tab. II., fig. 7, *a*, *b*.)

Polyneura ducalis, Westwood, Arcan. Ent. vol. i. p. 92, t. 24, f. 2 (1842); Amy. & Serv. Hist. des Hém. p. 460, n. 1 (1843); Walk. List Hom. i. p. 2 (1850); Atkins. J. A. S. Beng. vol. liii. p. 211, n. 1 (1885).

Body above and beneath black; eyes, the anterior lateral margins of vertex, and the anterior and posterior margins of pronotum, ochraceous; femora reddish, their bases and apices and the tibiæ and tarsi black (coxæ in some specimens also reddish).

Tegmina brownish-ochraceous, the venation, costal membrane, and claval margin ochraceous; the tegmina are also darker in hue for a little more than basal third. Wings ochraceous, in some specimens (as in the one here figured) irrorated with paler ochraceous, and the tegmina, as in the same figure, sometimes with a short transverse discal ochraceous fascia.

The rostrum about reaches the posterior coxæ; the opercula are short, not extending beyond the basal segment of the abdomen, their lateral margins oblique, their posterior margins convex and their inner angles overlapping.

Long. excl. tegm. 35 to 37 millim. Exp. tegm. 100 to 110 millim.

Hab.—Continental India; Nepal (Hardwicke—Hope Mus. Oxford and Brit. Mus.; North-Western Province, Ranikhet (Calc. Mus. and coll. Dist.); Sikkim and Assam (Calc. Mus.); Darjeeling (Stock. Mus. and coll. Dist.). Burma: Rangoon (coll. Dist.).

The specimen here figured is a female, which has proved to be the dominant sex in all the examples of the species which have passed through my hands; the females are also, from my measurements, larger than the males.

Genus TACUA.

Tacua, Amyot & Serville, Hist. des Hém. p. 461, 359 (1843); Stål, Hem. Afr. vol. iv. p. 3 (1866); Atkins. J. A. S. Beng. vol. lv. p. 150 (1886).

Body very robust and somewhat long. Head broad, truncate anteriorly, including eyes as broad as anterior lateral margins of pronotum; ocelli a little farther apart from eyes than from each other; face broad and convex, but somewhat compressed. Pronotum with the lateral margins convex, but not prominently ampliated or laminately expanded. Anterior femora distinctly and robustly spined. Metasternum centrally and longitudinally sulcated. Tympana covered; opercula long, extending a little beyond the middle of abdomen, their margins subparallel and slightly overlapping at centre. Tegmina opaque; apical areas eight, interior ulnar area somewhat widened at apex; wings excluding margins opaque.

This genus is only represented by one large and very handsome species, and its distribution is focussed in the islands of Sumatra, Java, and Borneo, and excepting a specimen received from the island of Penang, I have no knowledge of it from any other habitat. It certainly appears to be an insular and not a continental* genus. As in the genus *Tosena*, its species varies in an albinic manner.

1. Tacua speciosa. (Tab. II., fig. 9, *a*, *b*, and fig. 10, *a*, *b*, var.)

Tettigonia speciosa, Illiger, Wied. Zool. Arch. ii. p. 145, n. 38, t. 2 (1800); Fabr. Syst. Rhyng. p. 33, n. 1 (1803).
Cicada indica, Donov. Ins. Ind. Hem. t. 2, f. 3 (1800—3).
Cicada speciosa, Blanch. Hist. Nat. Ins. iii. p. 165, n. 1; Hém. t. 9 (1840).
Tacua speciosa, Amy. & Serv. Hist. des Hém. p. 462, n. 1 (1843); Atkins. J. A. S. Beng. vol. liii. p. 217, n. 17 (1885); ibid. lv. p. 151, n. 15 (1886).

Body above black; eyes, anterior pronotal margin (narrowly), posterior margin of pronotum, posterior margin of the third, and the whole of the fourth, fifth and sixth abdominal segments, ochraceous; basal cruciform elevation red, with its anterior angles black; body beneath black; lateral areas and margins to prosternum, a spot at lateral margins of third abdominal segment, and the lateral margins of the fourth, fifth and sixth abdominal segments, ochraceous.

Tegmina black, costal membrane and venation dull reddish, outer margin narrowly creamy-white; wings black, the outer margin (excluding anal area) creamy-white.

Var. a. Tegmina and wings greyish-brown, the black coloration only observable at margins of the veins.

Long. excl. tegm. 47 to 57 millim. Exp. tegm. 150 to 180 millim.

Hab.—Penang (coll. Dist.). Sumatra (coll. Dist.; V. Langsberg—Bruss. Mus., Leyden Mus.). Java (Amy. & Serv.). Borneo: Sarawak (Beccari—Genoa Mus,); Kina Balu Mt. (Whitehead—coll. Dist.).

According to Donovan, a single specimen of this species was found in Bengal by Mr. Fichtel, and deposited in the Imperial Cabinet at Vienna, but that habitat I consider liable to the greatest doubt. It may possibly be found in the Malay Peninsula, as a specimen has been received from the adjoining island of Penang, but I have hitherto seen no examples from the mainland, nor did I meet with the species myself when residing in that country.

The pale-coloured variety is found with the normal form of the species, and I have quite recently received both, collected at the same time, from Kina Balu Mountain in Borneo.

* The words "insular" and "continental," as here used, represent strictly subdivisions only of the "continental" area, bounded by the thousand-fathom line as generally understood in zoo-geographical distribution. Sumatra, Java, and Borneo thus form part of that "continental area," but in this work the areas have to be more finely drawn, and the cicadan fauna of these islands are compared with those of the surrounding continental lands.

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8b
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13a
13b

Genus GRAPTOPSALTRIA.

Graptopsaltria, Stål, Hem. Afr. vol. iv. p. 3 (1866).

Body robust, attenuated posteriorly. Head, including eyes, narrower than the anterior lateral margins of the pronotum; ocelli wider apart from eyes than from each other; rostrum extending to about posterior coxæ. Pronotum with the lateral margins irregularly convex, not prominently ampliated or laminately expanded. Anterior femora robustly spined. Tympana practically covered; opercula short, broad, not extending beyond basal segment of abdomen. Tegmina opaque. Apical areas eight; transverse vein at the base of the second apical area much curved; interior ulnar area not distinctly widened at apex. Wings opaque; apical areas six.

This genus, represented according to present knowledge by one species, is known only from Japan, which thus contains an example of the opaquely coloured species having the tympana covered, and found in other portions of our fauna, in the genera *Tacua* and *Tosena*.

1. Graptopsaltria colorata. (Tab. II., fig. 8, *a*, *b*.)

Graptopsaltria colorata, Stål, Berl. Ent. Zeit. x. p. 169 (1866).

Head black; apex and base of front, anterior lateral margins, a small spot behind eyes, and two large discal spots to vertex castaneous; ocelli and eyes ochraceous. Pronotum castaneous, the anterior and posterior margins, and two narrow central longitudinal fasciæ, blackish; extreme lateral margins castaneous. Mesonotum black, with two faint obconical spots at centre of anterior margin; in some specimens there are a few small castaneous spots; cruciform elevation castaneous, with its centre and apical angles black. Abdomen above black. Body beneath ochraceous, mottled with dark castaneous and blackish; opercula dull ochraceous; inner margin of eyes and margin of face blackish.

Tegmina dark ochraceous, mottled with castaneous; a narrow angulated linear fascia, commencing at apex of radial area and terminating at apex of inner ulnar area, and the apical area (irregularly) fuscous, a series of small pale submarginal spots near apices of apical areas. Wings dark, warm ochraceous, the outer margin and a subapical fascia castaneous, a small pale spot near apex of lower apical area.

Long. excl. tegm. 30 to 37 millim. Exp. tegm. 92 to 118 millim.

Hab.—Japan (Stockh. Mus.—Brit. Mus.; Lewis—coll. Dist.).

The females of this species—in all the specimens I have examined—have been invariably larger than the males. It does not appear to vary in markings or coloration, as a fine series passed through my hands, collected by Mr. George Lewis, in his Japanese entomological expeditions.

Genus TOSENA.

Tosena, Amyot & Serville, Hist. des Hém. p. 462, 360 (1843); Stål, Hem. Afr. iv. p. 3 (1866); Atkins. J. A. S. Beng. vol. lv. p. 151 (1886).

Body robust and long. Head broad, including eyes, about equal in width to that of mesonotum at base; ocelli twice the distance from eyes as from each other; face convex, slightly prominent above. Pronotum with the lateral margins more or less ampliated, or laminately expanded, and more or less distinctly toothed. Anterior femora distinctly spined. Metasternum elevated. Tympana covered; opercula short and broad. Tegmina usually altogether opaque; apical areas eight; interior ulnar area somewhat widened at apex; wings opaque.

Tosena is one of the most conspicuous genera of the *Cicadidæ*, and its species are all included in this fauna. The north-eastern districts of Continental India are its head-quarters, for here are focussed some of the largest and handsomest of its species; it is also well represented in Burma, and from thence its distribution is extended throughout the Malay Peninsula to the south, and apparently northward as far as some portions of China. In the Malayan Archipelago it is not uncommon in Sumatra, Java, and Borneo, and as I have seen representatives from Amboyna, it probably exists in other intervening islands, of which, however, we have at present no precise information.

As in *Tacua*, albinic variation is not unfrequent.

a. *Tegmina uniformly black; wings reddish ochraceous.*

1. **Tosena mearesiana.*** (Tab. II., fig. 3, *a*, *b*.)

Cicada Mearesiana, Westwood, Arc. Ent. vol. i. p. 98, n. xv. t. 25, f. 1 (1842).

Tosena Mearesiana, Amy. & Serv. Hist. des Hém. p. 463 (1843); Atkins. J. A. S. Beng. vol. liii. p. 217, n. 19 (1885); ibid. lv. p. 151, n. 17 (1886).

Body and legs black or dark fuscous; ocelli and eyes pale castaneous; posterior margin of pronotum, posterior margin of mesonotum (excluding cruciform elevation), posterior lateral margins of metanotum, a small spot on each side of face, and a large spot on posterior lateral margins of prosternum, ochraceous.

Tegmina black, opaque. Wings reddish-ochraceous; the venation, posterior margin, and anal area dark fuscous.

The rostrum extends to between the inner angles of the opercula, which are short, broad, and well separated.

Long. excl. tegm. ♂, 53 to 58 millim.; ♀, 40 to 43 millim. Exp. tegm. ♂, 132 to 142 millim.; ♀ 130 to 133 millim.

Hab.—Continental India: Himalaya (*sic.*—Westw.); Sikkim (Calc. Mus.—coll. Dist.).

According to present knowledge, this species appears to be confined to the neighbourhood of Sikkim. The females are much smaller than the males, and have their tegmina rather paler in hue.

b. *Tegmina black or dark fuscous, crossed by an oblique whitish fascia.*

c. *Wings more or less black.*

2. **Tosena fasciata.** (Tab. II., figs. 1 & 2, *a*, *b*.)

Tettigonia fasciata, Fabricius, Mant. Ins. ii. p. 265, n. 2 (1787); Ent. Syst. iv. p. 17, n. 2 (1794); Syst. Rhyng. p. 34, n. 3 (1803).

Cicada fasciata, Oliv. Enc. Méth. v. p. 747, n. 2, t. 109, f. 1 (1790); Germ. in Thon. Arch. ii. p. 2, n. 11 (1830); Silb. Rev. Ent. ii. p. 75, n. 49 (1834); Blanch. Hist. Nat. Ins. iii. p. 165, n. 2 (1840).

Tosena fasciata, Amy. & Serv. Hist. des Hém. p. 462, n. 1 (1843).

Stoll, Cig. fig. 16.

Head and thorax above black; an oblique spot near each anterior lateral angle of vertex of head, ocelli, eyes, two small spots on anterior margin of pronotum, posterior margin of pronotum, posterior margin of mesonotum, a spot on each side of cruciform elevation, and the posterior margins of metanotum, ochraceous. Abdomen ochraceous, the basal segment, tympanal coverings, and a central discal spot on the second and third segments, black. Head beneath, rostrum, sternum, legs, opercula, and basal segment

* Named after Mr. Meares, by whom it was first sent home.

of abdomen black; apices of coxæ, apices of femora, extreme bases of tibiæ, rostrum near base, central portions of sternum, and the abdomen, ochraceous.

Tegmina and wings blackish, the venation brownish-ochraceous; tegmina with the base narrowly brownish-ochraceous and crossed by a narrow creamy fascia, commencing beneath and near the apex of radial area and terminating on posterior margin beneath the lower apical area.

Var. a.—Wings with some obscure pale submarginal rays as in the specimen figured (Tab. II., fig. 1).

Var. b.—Wings with the venation black and concolorous.

Var. c.—Tegmina with the transverse creamy fascia much widened.

Var. d.—Mesonotum with two central ochraceous spots (Tab. II., fig. 2).

Long. excl. tegm. ♂, 53 to 58 millim.; ♀, 41 to 44 millim. Exp. tegm. ♂, 125 to 140 millim.; ♀, 128 to 132 millim.

Hab.—Sumatra (Bruss. Mus.; coll. Dist.). Java (V. Lansberg—Bruss. Mus.; Forbes—coll. Dist.). Borneo: Kina Balu Mt. (Whitehead—coll. Dist.); South-East District (Doherty—coll. Dist.). Amboyna (Bruss. Mus.).

I possess a specimen labelled "China," but do not care to attach much importance to that habitat without further corroboration. *T. fasciata*, according to present knowledge, is a purely insular form, and is replaced on the mainland by the following race? or species? *T. melanoptera*.

In some specimens the posterior margin of the pronotum is green, and not ochraceous, but this colour difference does not constitute a distinct variety, as it is observed co-existent with the other aberrations already described under *vars.* a, b, c.

3. Tosena melanoptera. (Tab. II., fig. 5, *a*, *b*.)

Cicada (*T.*) *melanoptera*, White, Ann. Nat. Hist. vol. xvii. p. 331 (1846).

Tosena melanoptera, Atkins. J. A. S. Beng. vol. liii. p. 217, n. 18 (1885); ibid. vol. lv. p. 151, n. 16 (1886); Dist. Ann. Mus. Civ. Genoa, ser. 2*a*, vol. vi. p. 454, n. 3 (1888).

Allied to *T. fasciata*, but tegmina and wings darker in hue, the transverse creamy fascia to tegmina much less oblique; pronotum without the small ochraceous spots at anterior margin, and the abdomen beneath more or less blackened, but prominently so near base and apex.

Var. a.—Legs black, with the apices of the femora ochraceous.

Var. b.—Legs uniformly black.

Var. c.—*Tosena albata.* (Tab. II., fig. 4, *a*, *b*.)

Tosena albata, Distant, Trans. Ent. Soc. 1878, p. 175; Waterh. Aid Ident. Ins. t. 147, f. 2 (1884); Atkins. J. A. S. Beng. vol. liii. p. 217, n. 20 (1885); ibid. vol. lv. p. 152, n. 18 (1886).

Tegmina with five longitudinal greyish fasciæ, one occupying radial area, and the others divided by ulnar veins, two of which amalgamate with the transverse fascia, and five irregular greyish fasciæ situate in the apical areas. Wings with nine greyish ray-like fasciæ situate on outer margin, the one at anal area largest; two-thirds of the outer margin narrowly edged with greyish. Apices of the femora not ochraceous.

Long. excl. tegm. ♂, 58 to 62 millim.; ♀, 43 millim. Exp. tegm. ♂, 140 to 155 millim.; ♀, 130 millim.

Hab.—Continental India: N.W. Himalaya (coll. Dist.); Sikkim (Calc. Mus.); Darjeeling (Stockh. Mus.; Elwes—coll. Dist.); N. Khasi Hills (Chennell—coll. Dist.); Sylhet (Stainforth—Brit. Mus.); Seebsagar (Calc. Mus.). Burma: Bhamò (Fea—Genoa Mus.).

This species? or race? seems to be only separable from *T. fasciata* by colour differences, the usual structural characters used in differentiation, such as the shape of the operculæ, &c., being apparently identical in both *T. fasciata* and *T. melanoptera*. The internal structure of the

anal organs might prove of diagnostic value, but too much value may be placed on the constancy of such characters.*

T. melanoptera, however, is only found on the mainland, whilst *T. fasciata* is as rigidly confined to the Malayan Islands—the distribution and close affinity of the two species? being exactly parallelled in Rhopalocera by *Papilios agenor* and *memnon*, of which the first (as I have previously pointed out†) is the continental and the second the insular species.

4. Tosena montivaga, n. sp. (Tab. XIII., fig. 6, *a*, *b*.)

♂. Head and thorax above black; head with the eyes and the lateral margins and anterior angles of vertex, and two small spots on anterior margin of pronotum ochraceous; lateral and posterior margins of pronotum, lateral margins and a large basal patch to mesonotum pale greenish inclining to ochraceous, the basal patch contains two small black spots; abdomen above black, its apical area covered with greyish pile. Body beneath and legs black; face, eyes, a spot connecting face and eyes, lateral margins of prosternum, apices of femora, and a spot on coxæ, ochraceous.

Tegmina black, the costal membrane and venation pale greenish, and with a narrow oblique whitish fascia crossing tegmina beyond radial area. Wings black.

♀. Differing from the male in having the transverse fascia to tegmina broader, the basal patch to mesonotum ochraceous (this is probably only varietal, or the result of discoloration), and the abdomen uniformly black, not greyish, at apex.

In this species the lateral margins of the pronotum are not distinctly toothed, the rostrum passes the inner angles of the opercula, which are short and transverse, with their posterior margins oblique.

Long. excl. tegm. ♂, 51 millim.; ♀, 41 millim. Exp. tegm. ♂, 130 millim.; ♀, 128 millim.

Hab.—Continental India: Naga Hills (coll. Dist.).

This handsome and distinct species is allied to *T. fasciata* and *T. melanoptera*, from both of which it differs by the black abdomen, the pale basal patch to the mesonotum, the green costal membrane to the tegmina, and the narrow oblique pale fascia to same. The opercula are also different in shape, being shorter, broader, more nearly meeting at inner angles, and with their posterior margins obliquely straight.

5. Tosena depicta. (Tab. III., fig. 11, *a*, *b*.)

Tosena depicta, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. ii. p. 323 (1888).

Head and thorax above black; head with a spot at apex of front and a spot at each anterior angle of vertex, two central spots on anterior margin of pronotum, the posterior margin of pronotum, four spots in transverse series on mesonotum, and the posterior margin of mesonotum ochraceous; the centre of basal cruciform elevation black. Abdomen above reddish ochraceous, with a central, longitudinal, narrow, dorsal, fuscous fascia. Head beneath, sternum, a lateral fascia to opercula, and legs black; a spot at base and one on each side of base of face; coxæ, apices of femora and tibiæ, tarsi (excluding base) and rostrum (excluding apex) ochraceous. Body beneath ochraceous, the basal segment blackish.

Tegmina dark olivaceous, the costal membrane and the venation reddish ochraceous, and with a transverse and slightly oblique greyish-white fascia near centre, not extending above the base of the second ulnar area; posterior basal margin narrowly reddish ochraceous. Wings black, the basal area reddish ochraceous, with its posterior margin black.

* See Mr. Beddard's account of some remarkable variations in the internal organs of a species of earthworm (*Perionyx excavatus*), as quoted in Wallace's 'Darwinism,' p. 66.

† 'Rhop. Malayana,' p. 342, *note*.

The rostrum reaches the apex of the basal abdominal segment, and the tegmina have their apices considerably attenuated.

Long. excl. tegm. 36 millim. Exp. tegm. 90 millim.

Hab.—Borneo:* South-East District (Doherty—coll. Dist.).

This species has probably a wider distribution, as Prof. Westwood informs me he has apparently the same insect from Sumatra and Malacca.

cc. *Wings red, with the apex black.*

6. Tosena dives. (Tab. III., fig. 10, *a*, *b*.)

Cicada dives, Westwood, Arc. Ent. vol. i. p. 98, t. 25, f. 2 (1842).

Tosena dives, Amy. & Serv. Hist. des Hém. p. 464 (1843).

Huechys transversa, Walk. List Hom. Suppl. p. 40 (1858); Stål, Öfv. Vet. Ak. Förh. 1863, p. 483; Atkins. J. A. S. Beng. vol. liii. p. 219, n. 26 (1885).

Gæana dives, Atkins. J. A. S. Beng. vol. liii. p. 221, n. 34 (1885).

Body and legs black; eyes ochraceous, apex of face castaneous. Tegmina blackish; the venation, costal membrane, and a transverse fascia,—commencing at apex of radial area and terminating on posterior margin at lower apical area,—reddish ochraceous. Wings pale reddish, with about the apical third black.

The face is very globose, and the rostrum extends to between the inner angles of the opercula.

Long. excl. tegm. ♂, 24 to 25 millim. Exp. tegm. 66 to 73 millim.

Hab.—Continental India (Stevens—Brit. Mus.): Sikkim (Calc. Mus. and coll. Dist.); Darjeeling (Stockh. Mus.); Sylhet (Stainforth—Hope. Coll., Oxford).

This species, according to present knowledge, has a very limited distribution.

d. *Basal areas of both tegmina and wings more or less ochraceous.*

7. Tosena sibylla. (Tab. IX., fig. 9, *a*, *b*.)

Gæana sibylla, Stål, Trans. Ent. Soc. ser. 3, vol. i. p. 576 (1863); Atkins. J. A. S. Beng. vol. lv. p. 156, n. 26 (1886).

* The best and fullest information we have concerning the *Cicadidæ* of Borneo is from the pen of Mr. Cuthbert Collingwood, who informs us:—"There are several species in Labuan and Pulo Daat, which make the woods resound. One of the most extraordinary of these singing insects utters a sound by no means unmusical. Just as the sun goes down, a loud, ringing whistle strikes up among the fern, or in some spot near the house, sometimes apparently almost in the verandah, which I can best compare to one smartly rubbing on very sounding musical glass, and keeping up for a long time a very loud and uninterrupted musical note. You may search in vain for the origin of the ringing sound, though it appears to spring from the very spot on which you may be standing, for a quiet approach will not disturb the insect, which, sitting in the mouth of its hole in the ground, whistles its monotonous and loud song, which is probably intensified by reverberation in the cavity. This insect seems to affect the neighbourhood of houses, and can only be seen by a patient and, withal, fortunate watcher.

"But there are two or three species of Cicadas which are no whit inferior in noisy powers to the insect just mentioned (which I have been assured was a locust), though their notes have a different character. One of these makes a simple chirp, all night long, like our crickets. But there are two others which I will designate respectively the *scissor-grinder* and the *saw-whetter*. I shall never forget the first time of hearing the scissor-grinder in the jungle at Pappan when approaching the island in a boat, the noise being distinctly audible for at least a quarter of an hour before we reached the shore, and when there the resounding *whir-r-r—whir-r-r—whir-r-r* of the insect awakening the echoes of the forest was truly astonishing. After continuing this deafening sound for some time, it winds up with a protracted *whiz-z-z-z* which dies away just like the scissor-grinder's wheel when the treddle stops. Another which I heard at Coal-point closely resembled the whetting of a saw, but was not so common as the last; and a third always began with a sort of warbling note, like a person blowing in water with a bird-whistle, very loud and somewhat melodious withal. These sing all day, even during the hottest hours.

"The Cicadas are, however, very difficult to detect by the sight. They often sing high up in the trees, and I should still be doubtful of the real nature of the songsters had I not once or twice, when peering curiously up into the tree, seen a Cicada quit its retreat and fly from among the leaves simultaneously with the discontinuance of the sound. But when in a bush near at hand, the ringing sound is of a peculiarly deceptive and ventriloquous nature. The noise they make is so loud that it thrills through the ears in a manner perfectly deafening. You approach the bush from which it appears to issue, and you even appear to have reached the very spot in which the animal is concealed, but nothing daunted, the insect continues its screeching, and you may peer about and look for a glimpse of it in vain. Your proximity does not disturb it, for it seems to think that it is quite safe in its concealment, and even thrusting a stick into the bush will not dislodge it, nor in all cases even stop the noise. At the same time one cannot be absolutely certain that it is really in that particular bush, for the mere intensity of the sound is not sufficient to fix its exact locality, though the thrill it sends through the ears proves it must be very near."—'Rambles of a Naturalist on the Shores and Waters of the China Seas,' pp. 175—7.

This species being only known to the writer by the type in the British Museum (of which a figure is here given), the original description is also copied :—

"Nigra; tegminibus a basi vix ad medium subolivaceo-flavis; alis ultra medium lutescentibus ♂.

"Statura *G. maculatæ*. Frons valde tumida. Thorax antice capite nonnihil angustior, lateribus ab apice ad medium parallelis, dein subito ampliatis. Tegmina costa et vena subcostali per totam longitudinem sat distantibus, venis ulnaribus basi sat distantibus, areis apicalibus longissimis, prima, quarta et sexta æquilongis. Opercula subtriangularia, apice rotundata.

"Long. 42, exp. tegm., 112 mill."

Hab.—Malay Peninsula: Tringánu (Brit. Mus.); Jelebu (Raffles Mus. Singapore).

Stål described this species from an unset specimen. I have to thank the authorities of the Zoological Department of the British Museum for having the tegmina and wings expanded, thus exhibiting the tympanal coverings, which show it to belong to the genus *Tosena*, and not to *Gæana*.

e. *Tegmina and wings partly hyaline, wings broadly greenish at base.*

8. Tosena splendida. (Tab. II., fig. 6, *a*, *b*, *var.*)

Tosena splendida, Distant, Ent. Month. Mag. vol. xv. p. 76 (1878); Waterh. Aid Ident. Ins. t. 147, f. 1 (1884); Atkins. J. A. S. Beng. vol. liii. p. 217, n. 21 (1885); ibid. vol. lv. p. 152, n. 19 (1886).

Body above black; front with a reddish spot at each basal angle; eyes, two small spots on vertex, four large spots to pronotum (two on disk and one at each posterior lateral angle) and two spots on disk of mesonotum,* luteous. Body beneath and legs black; lateral margins of the face, a wide central annulation to femora, and a central discal series of subtriangular spots, sanguineous.

Tegmina and wings—where not obscured by darker markings—pale hyaline, exhibiting varied opaline lustre, which in some lights is found to be ornamented with close and regular series of transverse darker striæ; tegmina at base (narrowly) and costal membrane shining blackish; venation bright luteous and for two-thirds from base broadly margined with shining blackish, and a series of shining blackish marginal spots on the apices of longitudinal veins to apical areas largest and somewhat fused at apex; claval area pale greenish. Wings pale greenish for nearly two-thirds their area from base; remaining apical area shining blackish, enclosing a submarginal series of pale opaline spots, of which the largest are subapical.

Var. a.—*Typical*, as described above (Waterh. Aid Ident. Ins. t. 147, f. 1).

Var. b. *Supra* (Tab. II., fig. 6).

In this variety all the markings are paler and more sombre in hue, the mesonotal spots practically absent, and the dark fuscous markings to tegmina and wings, not shining blackish.

Long. excl. tegm. ♂, 45 to 47 millim.; ♀, 44 millim. Exp. tegm. ♂ & ♀, 122 to 127 millim.

Hab.—Continental India: Naga Hills, 2000 to 6000 ft. (Chennell—coll. Dist.); Khasi Hills, 4500 to 6000 ft. (Chennell—coll. Dist.); Lushai Country (Calc. Mus.). Burma: Akyab (coll. Dist.).

When first diagnosing this species, with only one of each sex before me, I was disposed to consider that the sexes usually differed in the manner there described. I have, however, since received other specimens, which prove the dark coloration to be the normal form of the species.

* The specimen figured was somewhat faded, but the colorist has altogether ignored these spots.

Genus LEPTOPSALTRIA.

Leptopsaltria, Stål, Hem. Afr. iv. p. 5 (1866); Atkins. J. A. S. Beng. vol. liii. p. 227 (1885); ibid. vol. lv. p. 157 (1886).

Body moderately long and robust. Head somewhat narrowed anteriorly, including eyes about equal in breadth to the anterior margin of the mesonotum; ocelli not quite twice the distance from eyes as from each other; front somewhat conical and subprominent. Pronotum with the lateral margins moderately ampliated and more or less distinctly toothed. Genæ* internally near the apex at the base of the lores,* furnished with a tubercle or tumescence. Anterior femora distinctly and robustly spined. Rostrum extending beyond the posterior coxæ. Tympana covered; opercula short. Second and third abdominal segments in the male furnished with a well-developed tubercle near each lateral margin. Tegmina with the interior ulnar area not, or slightly, narrowed at apex.

This genus of *Cicadidæ*, with covered tympana and clear tegmina, is easily recognised in the male sex, by the character of the lateral tubercles to the second and third abdominal segments. In the *Tibicininæ* we have a similar genus, separated by the tympana being practically uncovered, for which I propose the generic name *Calcagninus*. †

The distribution of the genus is conterminate with the faunistic area embraced by this monograph, and every known species is thus included.

a. *Opercula with the posterior margins obliquely straight, the lateral margins usually oblique, sometimes slightly convex.*

1. Leptopsaltria quadrituberculata. (Tab. VIII., fig. 6, *a*, *b*.)

Cicada quadrituberculata, Signoret, Ann. Soc. Ent. de Fr. sér. 2, vol. v. p. 297 (1847).

Dundubia quadrituberculata, Walk., List Hom. i. p. 78, n. 40 (1850); Stål, Ann. Soc. Ent. de Fr. sér. 4, vol. iv. p. 60 (1864).

Leptopsaltria quadrituberculata, Stål, Berl. Ent. Zeit. x. p. 170 (1866); Öfv. Vet. Ak. Förh. 1870, p. 710, n. 1.

♂. Body above ochraceous. Head with the lateral striations to front, a series of linear marks on vertex, and the area of the ocelli black; eyes castaneous; ocelli red. Pronotum with two central black lines, the posterior and inner lateral margins also black, and an irregular black spot on posterior margin near each lateral angle. Mesonotum with five black linear spots, the central one straight and crossing disk, the others situate two on each side, shorter and oblique, and with four small rounded black spots near base. Abdomen pale castaneous, sparingly clothed with greyish pile, the segmental margins pale blackish; lateral margins of the tympanal coverings also blackish. Body beneath, rostrum and legs ochraceous; apices of face and genæ, a fascia between eyes and face, a broad annulation at apices of anterior femora, anterior tibiæ excluding apices, anterior halves—excluding apices—of intermediate tibiæ, anterior tarsi excluding base, apex of rostrum, margins of opercula, abdominal tubercles, and apex of abdomen, black.

Tegmina and wings pale hyaline; the first with the costal membrane and venation ochraceous with blackish shadings, the transverse veins at the bases of the second and third apical areas infuscated; wings with the venation ochraceous, more or less infuscated.

* The terms "genæ" and "lores" may be described in the words of Burmeister:—"The sides of the head, from the eyes downwards to the mouth, are called cheeks (*genæ*). We again distinguish in them the anterior portion, extending as far as the articulation of the mandibles and maxillæ, or the commencement of the mouth, by the name of reins or *lora*."—('Manual Entomology,' Shuckard's translation, p. 51).

† The author quoted by Burton, in his 'Anatomy of Melancholy,' as an authority for the power of music on the insect world,—"bees .... though they be flying away, when they hear any tingling sound will tarry behind."

The rostrum reaches the inner angles of the opercula, which are widely separated, their apical margins oblique, their lateral margins slightly convex.

Long. excl. tegm. 41 millim. Exp. tegm. 110 millim.

Hab.—Java (coll. Sign., coll. Dist.). Philippine Isles (Stockh. Mus.—Bruss. Mus.). China (Bowring—Brit. Mus.).

This is the largest species of the genus at present known to science

2. Leptopsaltria mascula. (Tab. X., fig. 1, *a*, *b*.)

Leptopsaltria mascula, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 420 (1889).

♂. Head, pronotum, and mesonotum greenish ochraceous; head with the margins of front, anterior margins of vertex, inner margins of eyes, and the area of the ocelli black; pronotum and mesonotum with the following black markings:—pronotum with two central longitudinal fasciæ, widened anteriorly and rounded and united posteriorly, the incisures, a large spot on lateral margins and three spots on posterior margin, the central one smallest and linear; mesonotum with five fasciæ, one central, widened and somewhat cordate posteriorly, an abbreviated one on each side, followed by another completely crossing disk, and two small spots in front of the cruciform elevation. Abdomen castaneous, the segmental margins pitchy and a spot of the same colour at base. Head and thorax beneath, legs and opercula greenish ochraceous, face with black striæ, head spotted with black, apices of the tibiæ and tarsi blackish. Abdomen beneath castaneous, with the tubercles and apex black.

Tegmina and wings pale hyaline, the venation ochraceous; tegmina with the apex slightly infuscated, a small black and ochraceous spot at base of upper ulnar area and the transverse veins at bases of second and third apical areas darkly infuscated.

The rostrum reaches the posterior coxæ; the opercula are angulated, the outer and posterior margins nearly straight.

Long. excl. tegm. ♂, 28 millim. Exp. tegm. 78 millim.

Hab.—Borneo: Kina Balu Mtn. (Whitehead—coll. Dist.).

3. Leptopsaltria samia. (Tab. VIII., fig. 11, *a*, *b*.)

Dundubia samia, Walker. List Hom. i. p. 77, n. 39 (1850); Atkins. J. A. S. Beng. vol. liii. p. 225, n. 47 (1888).

The following is Walker's original description:—

"Body green, tinged here and there with tawny: head much narrower than the fore-chest, pitchy about the eyelets, and with a pitchy streak on each side along the eye; mouth tawny, with a black tip reaching beyond the hind-hips; eyes prominent; feelers tawny; scutcheon of the fore-chest adorned with a pale streak which is slightly widened in front and behind; a pitchy spot on each side; hind-scutcheon narrow in the middle, slightly angular and much widened at the base of each fore-wing, slightly excavated on each side; scutcheon of the middle-chest ferruginous, adorned with some green marks, of these there is a large angular spot in the middle, on each side a forked mark, behind which there is a curved mark, and nearer each side a slight streak; hind border slightly excavated; abdomen obconical, tawny, darker at the tip, longer than the chest, paler beneath; opercula tawny, small; drums pale green, small, far apart: legs tawny; tips of the claws black; fore-thighs armed with three teeth, two of moderate size, one very small; wings colourless; fore border green, tawny beyond the brand; veins green, adorned with a few black bands, tawny towards the tips; cross-veins clouded with pale brown; a row of pale brown spots near the tips of the longitudinal veins of the marginal areolets; fore-flaps brown; hind-flaps brown between the middle veins and the fore border."

Long. excl. tegm. 26 millim. Exp. tegm. 76 millim.

Hab.—Continental India: North India (*sic*) (Warwick—Brit. Mus.); Sikkim (coll. Dist.).

I have thought it best to reproduce the original description of this species, as the Sikkim specimen in my collection, and which is here figured, has the markings of the mesonotum faint and somewhat obliterated.

It is closely allied to the preceding species, *L. mascula*, from which it structurally differs by the opercula, which are wider apart and have their posterior margins more oblique, the face is also less strongly striated. The abdomen beneath has the apex more broadly black, and the tegmina have a complete series of small fuscous marginal spots at the apices of the longitudinal veins to apical areas.

4. Leptopsaltria albistigma. (Tab. X., fig. 15, *a*, *b*.)

Dundubia albistigma, Walker, List Hom. i. p. 58, n. 18, (1850).

This species is only known to the writer by the specimens in the British Museum, one of which is here figured, and therefore the original description—as far as necessary—is reproduced :—

"Body tawny, somewhat ferruginous, covered with white down; head a little narrower than the fore-chest; some black marks on each side of the crown; space about the eyelets also black; face very convex, adorned in front with a broad black stripe, on each side of which there are black bands; mouth tawny with a black tip, reaching the hind-hips; eyes prominent; feelers black; scutcheon of the fore-chest adorned in front with two triangular black spots; hind scutcheon angular and slightly notched and armed with a very short tooth on each side; scutcheon of the middle-chest adorned with five black stripes, the inner pair short, but succeeded by two black dots, the outer pair broad; hind border very slightly excavated: abdomen slightly obconical, larger than the chest, adorned on the hind border of each segment with a pitchy band which is widened on each side into a triangular spot; four tubercles on the under side: opercula dull tawny; drums small, tinged with green, a little apart, not more than one-third of the length of the abdomen; legs tawny; claws black, tawny at the base; fore-thighs armed with three black teeth, one very short, two very long; wings colourless, greyish at the base; cross-veins from the first to the fourth clouded with brown; brands whitish; veins tawny; cross-veins and a few parts of the longitudinal veins black; flaps greyish at the base."

Long. excl. tegm. 30 millim. Exp. tegm. 86 millim.

Hab.—China (G. T. Lay—Brit. Mus.).

5. Leptopsaltria nebulinea. (Tab. VIII., fig. 17,*a*, *b*.)

Dundubia nebulinea, Walker, Journ. Linn. Soc., Zool. vol. x, p. 84, n. 10 (1867).

Walker describes the female sex only as follows :—

"Testaceous, partly greenish about the sides of the thorax. Head with a transverse black mark on each side of the front; orbits of the ocelli black; face with transverse piceous streaks along each side. Prothorax with a black line along the fore border; the two usual black lines very incomplete; fore border and hind border of the postscutellum black. Mesothorax with two slightly curved piceous lines, which are united behind, where they form a deep curve. Abdomen with a piceous line along the fore border of each segment; tomentum shining, cinereous. Fore tibiæ and anterior tarsi piceous. Wings pellucid; veins ochraceous, partly black; stigma bright yellow; first, second, and third transverse veins clouded with dark brown; a pale brown fusiform dot on each of the seven marginal veins; a still paler diffuse brown streak in each of the marginal areolets."

In the male the opercula are situate wide apart, their lateral margins slightly convex, their posterior margins obliquely straight.

Long. excl. tegm. 22 to 25 millim. Exp. tegm. 60 to 74 millim.

Hab.—Sumatra (Wallace—Brit. Mus.). Borneo: Sarawak (Genoa Mus.); South-East Region (Doherty—coll. Dist.).

Walker described the species from a single female specimen only, but my collection now contains three males which differ very widely in size. The markings are, however, generally constant.

6. Leptopsaltria andamanensis. (Tab. X., fig. 12, *a*, *b*.)

Leptopsaltria andamanensis, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 370 (1888).

Body above reddish ochraceous, ocelli reddish. Pronotum with the centre of the anterior margin and the whole of the posterior margin (widest at centre) blackish. Mesonotum with two linear, blackish, obconical spots at anterior margin and a greenish fascia near each lateral margin. Abdomen with the segmental margins darker. Body beneath ochraceous, the abdominal tubercles blackish. Legs *mutilated*.

Tegmina and wings pale hyaline, the venation fuscous. Tegmina with the costal membrane brownish ochraceous, a small costal fuscous and ochraceous spot at base of upper ulnar area, the transverse veins at the bases of second, third, and fifth apical areas infuscated, and a series of small fuscous marginal spots situated on the apices of the longitudinal veins of apical areas.

The rostrum has the apex piceous and just passing the posterior coxæ.

Long. excl. tegm. ♂, 21 millim. Exp. tegm. 58 millim.

Hab.—Andaman Islands (J. Wood-Mason—Calc. Mus.).

b. *Opercula with their apical margins more or less convex.*

7. Leptopsaltria tuberosa. (Tab. VIII., fig. 7, *a*, *b*.)

Cicada tuberosa, Signoret, Ann. Soc. Ent. de Fr. sér. 2, vol. v. p. 299 (1847).

Dundubia tuberosa, Walk. List Hom. i. p. 78, n. 41 (1850).

Leptopsaltria tuberosa, Stål, Berl. Ent. Zeit. 10, p. 170 (1866).

Body above brownish ochraceous; head with some lateral curved fasciæ to front, some oblique fasciæ to vertex, area of ocelli, and basal margin blackish; pronotum with two central blackish longitudinal lines, the anterior margin, the edge of lateral margin, and a spot near each lateral area blackish, posterior margin greenish or ochraceous; mesonotum with the following blackish markings:—a narrow central longitudinal fascia, on each side of which is a short curved fascia; these are followed by a short triangular spot on anterior margin, and then a broad oblique fascia on each lateral area unites with a large triangular spot in front of the basal cruciform elevation, and a fascia on each lateral margin uniting with the preceding fascia at base. Abdomen with the segmental margins blackish. Body beneath and legs ochraceous; abdominal tubercles blackish.

Tegmina and wings pale hyaline, the venation brownish; tegmina with the costal membrane brownish, a blackish spot at base of upper ulnar area, the transverse veins at the bases of second, third, fifth and seventh apical areas infuscated, and a submarginal series of small fuscous spots placed near the apices of the longitudinal veins to apical areas.

Opercula small, situate wide apart, their apices broadly convex.

Long. excl. tegm. ♂, 27 to 32 millim.; ♀, 23 millim. Exp. tegm. 72 to 79 millim.; ♀*, 84 millim.

Hab.—Continental India: Sikkim (Calc. Mus., coll. Dist.); Khasi Hills (Calc. Mus.). Java (coll. Sign., coll Dist.). Japan: Yokohama (Bruss. Mus.).

This is not only a distinct, but evidently a widely distributed species, and its localities will be largely increased when the *Cicadidæ* of Eastern Asia are more sought after by collectors.

One specimen only.

8. Leptopsaltria pryeri.* (Tab. VIII., fig. 12, *a*, *b*.)

Leptopsaltria pryeri, Distant, Trans. Ent. Soc. 1881, p. 633.

Body above brownish-ochraceous; head with the frontal margin, the area of the ocelli and the posterior margin (narrowly) blackish; pronotum with an obscure central longitudinal sulcation, the edges of which are very slightly raised and darkened, commencing on anterior margin, but not extending through more than half the pronotal length, lateral and posterior margins ochraceous; mesonotum with two obscure obconical spots on anterior margin, the edges of which are blackish; abdomen beneath and legs pale brownish-ochraceous; opercula inwardly and narrowly margined with blackish, abdominal tubercles dark castaneous.

Tegmina and wings pale hyaline with a pale ochraceous tinge, venation brownish-ochraceous; tegmina with the costal membrane brownish-ochraceous; a small dark costal spot at base of upper ulnar area; the transverse veins at the bases of second, third and fifth apical areas infuscated, and a submarginal series of small pale fuscous spots placed near the apices of the longitudinal veins to apical areas.

The opercula are situate closer together than in the preceding species, *L. tuberosa*, and are also less convex, and have their apices more convexly angulated.

Long. excl. tegm. ♂, 26 millim. Exp. tegm. 82 millim.

Hab.—Borneo: Sandakan† (Pryer—coll. Dist.).

9. Leptopsaltria tigrina. (Tab. X., fig. 6, *a*, *b*.)

Dundubia tigrina, Walker, List Hom. i. p. 69, n. 31 (1850); Atkins. J. A. S. Beng. vol. liii. p. 224, n. 45 (1885).

Head and thorax above ochraceous; abdomen brownish ochraceous. Head with the frontal margins, the area of the ocelli, inner margin of eyes, and an angulated fascia on each lateral area of vertex black; pronotum with the anterior margin, two central longitudinal fasciæ, and a semicircular lineate spot on each lateral area, black; mesonotum with a central longitudinal fascia, on each side of which is a shorter curved fascia, followed by a small costal spot, a broken irregular fascia on each lateral area, and a small spot in front of each anterior angle of the cruciform elevation, black; abdomen with the segmental margins black. Thorax beneath, legs and opercula greenish ochraceous; abdomen beneath pale ochraceous, the tubercles, a spot near base and the apex black; a transverse spot between face and eyes, a small spot at apex of face, and the apex of the rostrum black.

Tegmina and wings pale hyaline, venation brownish-ochraceous, becoming fuscous towards apical areas; tegmina with the costal membrane brownish-ochraceous; a small pale ochraceous submarginal spot near base of upper ulnar area, the transverse veins at bases of second and third apical areas broadly infuscated, and some small faint fuscous marginal spots near apex.

The opercula are small, wide apart, with their apices convexly angulated, and their inner margins not distinctly convex as in the two preceding species.

Long. excl. tegm. ♂, 24 to 27 millim. Exp. tegm. 68 millim.

Hab.—Continental India: Malabar (Brit. Mus.); Trivandrum in Travankor (H. S. Fergusson—coll. Dist.). Malay Peninsula: Province Wellesley (coll. Dist.).

10. Leptopsaltria tigroides. (Tab. XII., fig. 18, *a*, *b*.)

Dundubia tigroides, Walker, Ins. Saund. Hom. p. 5 (1858).

Pomponia tigroides, Dist. J. A. S. Beng. vol. xlviii. p. 38 (1879); Atkins. ibid. vol. liii. p. 229, n. 68 (1885).

* Named after my friend Mr. W. B. Pryer, to whom I am indebted for the above and many other fine species belonging to different orders of insects from Northern Borneo.

† British North Borneo is evidently rich in the family *Cicadidæ*, for besides information acquired from Mr. Pryer, Mr. Guillemard, in his account of the zoological features of that province, describes "the ceaseless and ear-piercing *whir—r—r* of thousands of cicadas."—('The Cruise of the Marchesa,' vol. ii. p. 95).

A typical male specimen in the British Museum is here figured, and as this is the writer's only knowledge of the species, Walker's original description of a female is here given :—

"*Female.* Green, partly testaceous. Head with minute black marks in front and on each side, and with a large black spot on the vertex. Prothorax with six black stripes; the inner pair dilated at each end; the middle pair oblique; the third pair marginal; a curved brown discal streak on each side between the first and second pairs. Mesothorax with five black stripes, which are slightly dilated hindward; inner pair shortened hindward; outer pair curved outward hindward; two black dots on the hind border. Abdomen with a black lanceolate mark on each of the first and second segments, with black dots along each side, and with a black subapical band. Wings vitreous. Fore wings with the costa green, luteous beyond the middle; stigma black, with a pale band; veins green, partly black; first and second transverse veins very slightly clouded with brown; first parted by more than twice its length from the second."

Long. excl. tegm. 22 millim. Exp. tegm. 60 millim.

Hab.—"Hindostan,"* *sic* (Brit. Mus.).

Walker describes this species as closely resembling *D. tigrina*, "but may be distingnished by the outward curve of the exterior stripes on the mesothorax, by the spots and band of the abdomen, and by the first transverse vein of the fore wing, which is slightly obliqne outward, whereas that of *D. tigrina* is very oblique inward."

L. tigroides and *L. tigrina* are, however, structurally distinct by the shape of the opercula, which in the first named species are small and very convex; the surface and markings of the face are also distinct.

c. *Opercula with their apices obtusely angulated, the apical margins straight or slightly concave.*

11. Leptopsaltria albiguttata. (Tab. VIII., fig. 8, *a*, *b*, & Tab. X., fig. 4, *a*, *b*.)

Dundubia albigutta, Walker, Journ. Linn. Soc., Zool. vol. i. p. 83, n. 4 (1856).

Pale ochraceous, with the following black markings :—head with linear fasciæ on anterior margins of front, a spot on anterior lateral angle of vertex, a curved line in front of eyes, and the area of the ocelli; pronotum with the anterior margin and extreme posterior margins, two irregular central longitudinal lines, on each side of which is an angulated linear spot, a somewhat rounded linear spot on each lateral area, and a small spot on each lateral margin; mesonotum with a central longitudinal line, on each side of which is a short curved linear fascia, again followed by a longitudinal series of three small spots and a spot in front of each anterior angle of the basal cruciform elevation, posterior segmental margins, some short transverse fasciæ on upper half of face, two small spots between face and eyes, four small spots near base of rostrum, apex of rostrum, anterior femoral spines, and some small spots to sternum.

Tegmina and wings pale hyaline, the venation ochraceous, becoming pale fuscous towards apical areas; tegmina with the costal membrane ochraceous, and the transverse veins at the bases of the second and third apical areas narrowly infuscated.

Opercula small, the inner angles obtusely acute, the inner apical margins concavely sinuate, their apices narrowed and convexly rounded, the outer margins oblique.

Long. excl. tegm. ♂, 23 to 25 millim. Exp. tegm. 67 to 69 millim.

Hab.—Malay Peninsula: Perak (coll. Dist.); Malacca (Wallace, Brit. Mus.). Sumatra: Western Region (V. Lansberg—Bruss. Mus.); Tapanoeli (V. Lansberg—Leyden Mus.); Kœtoer and Mœara Laboe (Sum. Exped.—Leyden Mus.). Java (coll. Dist.).

* The vague use of the words "India" and "Hindostan," in Zoology, recall to mind the equally uncertain value of the first-named word in some of the traditions of the fourth century, which attributed to Christianity certain very remote conquests. As Renan writes, "The use of the word India was extremely vague; whoever had embarked at Clysina and made the voyage of the Red Sea was reported to have been in India."—('Marcus Aurelius,' Eng. edit.).

This is a very pale coloured species, constant in markings, and a somewhat common insect (if the species of this family can ever be styled abundant)* in the localities where it has been collected.

12. Leptopsaltria carmente. (Tab. VIII., fig. 2, *a*, *b*.)

Dundubia carmente, Walker, List Hom. i. p. 71, n. 33 (1850).

Leptopsaltria nigrescens, Dist. Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 50 (1889).

Brownish-ochraceous, with the following black markings:—head with the area of the ocelli, the inner margins of the eyes, a spot near bases of antennæ, a spot on each side of front, and a central transverse linear line at base; pronotum with two central lines united at base, and the incisures; mesonotum with two central obconical spots at anterior margin, a sublateral fascia on each side, and a spot in front of each anterior angle of the basal cruciform elevation; the posterior margins of the abdominal segments, the margins of the eyes beneath, the apex of the face, the disk of the sternum, the inner halves of the opercula, the abdominal tubercles, and the disk of abdomen also black.

Tegmina pale hyaline, the basal venation brownish, the apical venation fuscous. Wings pale hyaline.

The rostrum passes the posterior coxæ, the opercula are concave externally, oblique internally, the apices narrowed and angularly rounded.

Long. excl. tegm. ♂, 20 millim. Exp. tegm. 56 to 63 millim.

Hab.—Java (Brit. Mus., Bruss. Mus., coll. Sign., coll. Dist.; V. Lansberg—Leyden Mus.). Borneo: Sarawak (Genoa Mus.).

The black fasciate markings to the opercula renders this species very distinct.

13. Leptopsaltria barbosæ,† n. sp. (Tab. V., fig. 14, *a*, *b*.)

Very closely allied in size, colour, and markings to *L. carmente*, Walk., but differing in colour, size, and shape of the opercula, which in *L. barbosæ* are shorter, less attenuated posteriorly, not concavely sinuate outwardly, the apices broader and more rounded,‡ and the inner and apical margins only shaded with blackish.

Long. excl. tegm. ♂, 22 millim. Exp. tegm. 60 millim.

Hab.—Sulu Islands: Jolo (coll. Dist.).

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14. Leptopsaltria guttularis. (Tab. XII., fig. 20, *a*, *b*.)

Cicada guttularis, Walker, List Hom., Suppl. p. 29 (1858).

Leptopsaltria guttularis, Stål, Berl. Ent. Zeit. 10, p. 170 (1866); Öfv. Vet.-Ak. Förh. 1870, p. 710, n. 2; Atkins. J. A. S. Beng. vol. liii. p. 227, n. 61 (1885).

This species is only known to me by the female typical specimen in the British Museum, and by a corresponding female specimen in my own collection. Walker's original description (with some abbreviation) is therefore given:—

"Testaceous, varied with green; under side mostly pale green. Head with a black four-forked mark about the ocelli, and with two black transverse streaks on each side; face with black streaks on the furrows, and with three on each side. Prothorax with a black band in front, and with two black stripes

* "They generally rest high upon the trees, and though daily and hourly heard, are seldom seen or captured" (Wallace, 'Travels on the Amazons,' new ed. p. 38).

† Named after Barbosa, to whom, according to Crawfurd, we are indebted for the first authentic notice of one of the chief islands of the Sulu group.—(Descr. Dict. Ind. Islds. pp. 407-8).

‡ Unfortunately rendered too angulate in the figure (Tab. V., fig. 14, *b*).

which approximate in the middle; three blackish streaks on each side, where there is an acute angle in front. Mesothorax with a black middle stripe, and with five black streaks on each side. Pectus with four black spots. Abdomen partly black beneath towards the tip. Wings vitreous; veins testaceous, black towards the tips. Fore wings with a whitish stigma: tips and transverse veins, and tips of the marginal veins clouded with brown."

Long. excl. tegm. ♀, 19 millim. Exp. tegm. 60 millim.

Hab.—Burma (Brit.Mus.). Borneo: Sarawak (coll. Dist.); Philippine Islands (Semper—Stockh. Mus.).

I include this species? with considerable hesitation. Walker described it from a single female specimen,—a most unsatisfactory proceeding,—and I have only seen another specimen, and that of the same sex. Stål, who had visited the British Museum and inspected Walker's types, apparently had no reticence in identifying some Philippine specimens as *L. guttularis*, and, having male examples, writes, "*L. tuberosæ*, Sign., simillima, divergit operculis obtusioribus, apice multo minus oblique truncatis, parte apicali exteriore obtusiore, minus longe producta, tuberculisque ventris apud marem majoribus nigris, lobum tumidum simulantibus." The female type, to my view, is closely allied to *L. albiguttata*, Walk., and may possibly yet prove to be simply that species.

Genus DUNDUBIA.

Dundubia, Amyot & Serville, Hist. des Hém. p. 470, 371 (1843); Stål, Hem. Afr. iv. p. 5 (1866); Atkins. J. A. S. Beng. vol. liii. p. 223 (1885); ibid. vol. lv. p. 157 (1886).

Body robust, long. Head somewhat triangularly elongate, including the eyes rather narrower than base of pronotum at lateral angles; ocelli a little farther apart from eyes than from each other; front large, globular, and convex, about twice as broad at base as the anterior lateral margins of the vertex. Pronotum with the margins not prominently ampliated, but distinctly toothed. Anterior femora spined. Tympana covered; opercula long and extending beyond the middle of the abdomen. Rostrum scarcely reaching the posterior coxæ. Tegmina hyaline, the basal cell twice as long as broad; interior ulnar area with the apex not or very slightly ampliated.

The absence of the tubercle or tumescence to the genæ and of the tubercles to the second and third abdominal segments of the male, together with the presence of the long opercula and the large, globular and convex front and face, sufficiently distinguish *Dundubia* from the preceding genus, *Leptopsaltria*.

This genus is a small one, though, owing to the number of species described uniformly by Walker under the generic name *Dundubia*, it would appear to be the largest genus of the Oriental *Cicadidæ*.

In geographical distribution, *Dundubia* is strictly confined to our faunistic area, and is focussed in the Indo-Malayan region; it is doubtful whether it extends so far eastward as New Guinea, but our collections from that large island are still too small to enable us to speak positively as to its absence. Its distribution, however, throughout the Malayan Archipelago is in no way equal to that of the following and allied genus *Cosmopsaltria*.

Another feature in the general appearance of the species of this genus is the unspotted tegmina, no species of which the writer is cognisant having the transverse veins at the bases of the upper apical areas infuscated.

a. *Opercula oblong, their apices rounded.*

1. **Dundubia mannifera.** (Tab. IV., figs. 17, *a*, *b*, and small var. 10, *a*, *b*.)

Cicada mannifera, Linnæus, Mus. Ad. Fried. p. 84 (1754), excl. syn.
Tettigonia vaginata, Fabr. Mant. Ins. ii. p. 266 (1787); Ent. Syst. iv. p. 18, n. 7 (1794); Syst. Rhyng. p. 35, n. 10 (1803).
Cicada vaginata, Gmél. Ed. Syst. Nat. i. pt. 4, p. 2099 (1782); Oliv. Enc. Méth. v. p. 748, n. 10 (1790).
Cicada virescens, Oliv. Enc. Méth. v. p. 747, n. 5 (1790).
Dundubia virescens, Walk. List Hom. i. p. 64, n. 25 (1850).
Dundubia vaginata, Amy. & Serv. Hist. des Hém. p. 471, n. 1 (1843); Walk. List Hom. i. p. 47, n. 4 (1850).
Dundubia nigrimacula, Walk. List Hom. i. p. 63, n. 23 (1850).
Dundubia sobria, Walk. List Hom. i. p. 63, n. 24 (1850).
Dundubia mannifera, Stål, Berl. Ent. Zeit. x. p. 170, n. 1 (1866); Öfv. Vet.-Ak. Förh. 1870, p. 707, n. 1; Dist. J. A. S. Beng. vol. xlviii. p. 38 (1879); Ann. Mus. Civ. Gen. ser. 2*a*, vol. vi. p. 455, n. 11 (1888); Atkins. J. A. S. Beng. vol. liii. p. 223, n. 39 (1885).
Fidicina confinis, Walk. Journ. Linn. Soc., Zool. vol. x. p. 92, n. 21 (1867).
Stoll, Cig. fig. 35.

Var.
Dundubia immacula, Walk. List Hom. i. p. 50, n. 10 (1850); Atkins. J. A. S. Beng. vol. liii. p. 225, n. 52 (1885).

Green, pale ochraceous, or green and dark ochraceous; abdomen above with some small lateral black spots, which are most distinct in the paler coloured specimens.

Tegmina and wings pale hyaline, the venation and the costal membrane of tegmina pale brownish or ochraceous.

Rostrum just passing the intermediate coxæ; opercula about reaching the penultimate segment of the abdomen, concavely sinuate on each side near base and then convexly ampliated, especially on inner margins, their apices narrowed and obtusely rounded.

Long. excl. tegm.* ♂, 38 to 45 millim.; ♀, 27 to 35 millim. Exp. tegm. ♂, 95 to 115 millim.; ♀, 78 to 95 millim.

Hab.—Continental India: Sikkim and Naga Hills (Calc. Mus.); Assam (Warwick—Brit. Mus.); Seebsagar (Calc. Mus.). Burma: Bhamò (Genoa Mus.); Moulmein (Calc. Mus.). Tenasserim (Limborg—Calc. Mus.); Myitta-in-the-Valley (Doherty—coll. Dist.). Malay Peninsula: Penang (Walker); Province Wellesley (coll. Dist.); Johore (Calc. Mus.); Sinkep Isld. (coll. Dist.). Sumatra (Ludeking, V. Hasselt, and V. Lansberg—Leyden Mus.; Bock—coll. Dist.). Java (Bruss. Mus.; Piepers and V. Lansberg—Leyden Mus.); Bantam (coll. Dist.); Kederi (Baron Von Hügel—coll. Dist.). Borneo: Pontianak (Bruss. Mus.): Kina Balu Mt. (Whitehead—coll. Dist.). Celebes (Meyer—Dresden Mus.). Philippine Isles (Semper—Stockh. Mus.); Palawan (coll. Dist.). China: Hong Kong (Bowring—Brit. Mus.).

This appears to be the commonest and most widely-spread species of the Eastern *Cicadidæ*, scarcely any collection of these insects made in the above localities is without it, and I found it a somewhat abundant species in the Malay Peninsula when collecting there some years ago. It is variable in hue, but is easily recognised, especially by the length and shape of the opercula.

Var. *a*. (Tab. XII., fig. 1, *a*, *b*.)

Cephaloxys Terpsichore, Walker, List Hom. i. p. 239, n. 10 (1850).
Dundubia terpsichore, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 483.
Mogannia terpsichore, Atkins. J. A. S. Beng. vol. liii. p. 233, n. 94 (1885).

* The dimensions of the small variety (Tab. IV., fig. 10, *a*, *b*) are not given, as the specimen is undoubtedly abnormal.

Closely resembling typical *D. mannifera*, but differing by the somewhat shorter opercula, a slight bronzy tinge to the apices of the tegmina in the male, and by the central mesonotal spots being outwardly margined with black.

Long. excl. tegm. ♂ & ♀, 30 millim. Exp. tegm. 85 to 92 millim.

Hab.—Continental India: North Khasi Hills, 1500 to 3000 feet (Chennell—coll. Dist.). Malay Peninsula: Perak (coll. Dist.).

The female, typical and only specimen in the British Museum, is smaller than the above dimensions given of two specimens in my own collection. After careful comparison and consideration, I incline to the view, that this specific creation of Walker is but another varietal form of *D. mannifera*.*

2. Dundubia rufivena. (Tab. VI., fig. 6, *a*, *b*.)

Dundubia rufivena, Walker, List Hom. i. p. 59, n. 19 (1850).

This species is closely allied to *D. mannifera*, Linn., but differs by its constantly smaller size and by the different shape of the opercula, which are much more concavely narrowed near base and then convexly widened on each side.

Long. excl. tegm. ♂ & ♀, 24 to 31 millim. Exp. tegm. 61 to 81 millim.

Hab.—Malay Peninsula: Penang (Biggs—coll. Dist.); Province Wellesley (coll. Dist.). Sumatra (Bruss. Mus.; Ludeking—Leyden Mus.; Beccari—Genoa Mus.). Nias Isld. (coll. Dist.). Java (Dresden Mus., Bruss. Mus.; V. Eyndh & Piepers—Leyden Mus.); Kederi (Baron Von Hügel—coll. Dist.). Sumbawa (V. Lansberg—Leyden Mus.). Borneo: Sarawak (Beccari—Genoa Mus.); Elopura (Pryer—coll. Dist.); South-East District (Doherty—coll. Dist.). Moluccas: Amboyna (Bruss. Mus.).

This species, like *D. mannifera*, varies in hue from pale green to dark ochraceous, but unlike that species, I have been unable to trace its distribution to Continental India.

2*a*. Dundubia mellea, n. sp.? or D. rufivena, var.? (Tab. XII., fig. 9, *a*, *b*.)

♂. Head, pronotum and mesonotum brownish-ochraceous, ocelli pale ochraceous, eyes pale castaneous; front with some obscure black lateral striæ; mesonotum with two short faint central obconical spots, and a larger obconical spot on each lateral area; base of cruciform elevation dark castaneous; abdomen above and beneath and the opercula golden-yellow, margins of the opercula more or less shaded with black; head beneath, sternum and legs dull ochraceous, tibiæ and tarsi pale castaneous.

Tegmina and wings pale hyaline, the first with the costal membrane and basal portion of the venation bright ochraceous, remaining venation darker; wings with the venation ochraceous, in some portions infuscated.

The rostrum extends to about the intermediate coxæ; the opercula are somewhat short, concave on each side near base and rounded at apices, which about reach the base of the fifth abdominal segment; anterior femora and posterior tibiæ spined.

Var. a. Head, pronotum, and mesonotum pale greenish, the abdomen ochraceous.

Long. excl. tegm. 33 millim. Exp. tegm. 80 millim.

Hab.—Borneo: Western District (Brit. Mus.). Elopura: Pryer (coll. Dist.).

I was at first inclined to consider this form, from its very distinctive coloration, as an undescribed species, but have since found other specimens from Northern Borneo, of so inter-

* This question of varieties and species still remains in a very open condition, as Mr. Bouverie-Pusey has stated it:—"One school made varieties lesser species, the other made species (not to say higher divisions) only better marked varieties."—('Permanence and Evolution,' p. 5).

mediate a character that I have preferred keeping it for the present as a subspecies or simple variety of *D. rufivena*. Should the last supposition prove correct, we have in *D. rufivena* a species which not only varies in colour, but also much more largely in size.

3. Dundubia locusta. (Tab. IX., fig. 1, *a*, *b*.)

Cephaloxys locusta, Walker, List Hom. i. p. 236, n. 7 (1850).

Mogannia locusta, Atkins. J. A. S. Beng. vol. liii. p. 233, n. 91 (1885).

Body brownish-ochraceous; ocelli red; eyes fuscous; posterior and lateral margins of pronotum paler in hue; mesonotum with two obscure obconical spots on anterior margin, their outer edges black, and a small dark spot near each anterior angle of the basal cruciform elevation; lateral margins of the abdomen above paler in hue and ornamented with a segmental series of black spots. Body beneath paler in hue; the head beneath, sternum, legs and opercula ochraceous.

Tegmina and wings pale hyaline, the venation and the costal membrane of the first ochraceous.

The opercula extend to about half the length of the abdomen, are concavely constricted on each side near base, and are then convexly rounded and moderately ampliated, the apex broadly rounded. The body is somewhat elongated and the head narrowed.

Long. excl. tegm. ♂, 34 millim.; ♀, 30 millim. Exp. tegm. 83 millim.

Hab.—Continental India (Wooler—Brit. Mus.); Bombay (Leith—coll. Dist.).

The narrowed head—a character which probably induced Walker to place the species in the genus *Cephaloxys*—will easily separate *D. locusta* from the other species of *Dundubia*, and the elongated body is also another distinctive character.

This species seems to have a limited distribution, as four specimens, two males and two females, collected by Dr. Leith at Bombay, and now in my own collection, are the only examples I have seen, excepting the type in the British Museum.

4. Dundubia rafflesii.* (Tab. IV., fig. 4, *a*, *b*.)

Dundubia rafflesii, Distant, Proc. Zool. Soc. 1883, p. 188.

Head and body above ochraceous, moderately and palely pilose. Eyes pale brown, mottled with fuscous, ocelli bright castaneous; posterior and lateral margins of pronotum greenish-ochraceous: mesonotum with two central pale and subobsolete obconical spots situate at anterior margin, with an obscure pale fuscous oblique streak on each side. Body beneath and legs ochraceous; opercula reaching the third abdominal segment, slender, concavely constricted on each side near base, and then again convexly widened to apex, which is rounded; rostrum about reaching posterior coxæ, with its apex narrowly fuscous.

Tegmina and wings pale hyaline; veins and costal membrane of tegmina ochraceous.

Long. excl. tegm. ♂, 30 millim. Exp. tegm. 73 millim.

Hab.—Java (coll. Dist.).

This species is allied to *D. rufivena*, Walk., but differs by its much more slender opercula, which are not perceptibly broader at the apex than at the base, being quite the reverse of what obtains in *D. rufivena*.

5. Dundubia emanatura. (Tab. VIII., fig. 3, *a*, *b*.)

Dundubia emanatura, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 51 (1889).

Pronotum above either greenish or ochraceous. Abdomen ochraceous. Head with a narrow, reticulated, linear, transverse, black fascia between the eyes enclosing the ocelli and a black spot at

* The name of Sir Stamford Raffles is indelibly connected with two great zoological enterprises. He followed and fostered the study of Natural History in the East,—especially in Java,—and may be said to have created the great Zoological Society of London.

anterior lateral angles of vertex; eyes brownish; pronotum with a narrow, black, lateral marginal fascia; body beneath and legs ochraceous, apices of posterior tibiæ infuscated.

Tegmina and wings pale hyaline, the venation pale greenish ochraceous.

The rostrum reaches the intermediate coxæ; the opercula are very narrow, slightly curved outwardly, concave on each side near base, the apex broadly convex and extending to about half the length of the abdomen.

♀. Abdomen with a lateral marginal black fascia on each side.

Long. excl. tegm. ♂, 26 millim. Exp. tegm. 72 millim.

Hab.—Continental India: Karwar (Atkinson—Calc. Mus.); Neelgiri Hills, southern slopes, 3000 feet (Hampson—coll. Dist.).

D. emanatura is another distinctly-marked species, the black lateral margin to the pronotum and the narrow opercula being good differential characters.

This does not appear to be an abundant species. For some time I possessed only a female specimen sent me, by my good friend Mr. Hampson, from the Neelgiri Hills, but eventually I also obtained the loan of a single male specimen, collected at Karwar, belonging to Mr. Atkinson, and was thus enabled to describe it.

6. Dundubia? ærata. (Tab. VI., fig. 7, *a*, *b*.)

Dundubia ærata, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 292 (1888).

Body above resembling *D. mannifera*, Linn., but much larger; beneath with the opercula small, narrow, concavely sinuated towards the middle, their apices obtusely rounded and reaching the third abdominal segment (rostrum mutilated).*

Tegmina and wings pale hyaline, their apical areas (especially those of tegmina) suffused with bronzy brown.

Long. excl. tegm. 50 millim. Exp. tegm. 120 millim.

Hab.—Borneo: Elopura (Pryer—coll. Dist.).

This is the largest species of the genus? at present known to science, and a distinctive colour peculiarity is the bronzy suffusion on the apical areas of the wings and tegmina, especially on the last.

I am indebted to Mr. W. B. Pryer for a single male specimen.

b. *Opercula narrow and elongate, their apices acutely pointed.*

7. Dundubia intemerata. (Tab. IV., fig. 1, *a*, *b*.)

Dundubia intemerata, Walker, Journ. Linn. Soc., Zool. vol. i. p. 84, n. 5 (1856); Atkins. J. A. S. Beng. vol. liii. p. 224, n. 42 (1885).

Body above green, ochraceous, or with the abdomen alone ochraceous. Ocelli red, eyes dark castaneous or fuscous. Rostrum, coxæ, tarsi and apices of tibiæ ochraceous; apex of rostrum and the tarsal claws black.

Tegmina and wings pale hyaline; extreme bases, venation and costal membrane of the first greenish-ochraceous.

The opercula are elongate and narrow, their apices acutely pointed, and their outer margins strongly and concavely sinuate.

In this species the rostrum about reaches the posterior coxæ, thus nearly affording a character belonging to the succeeding genus *Cosmopsaltria*, but the structure of the head, combined with the unspotted tegmina, locate its position in the genus *Dundubia*.

* Possessing but one specimen of this species, I have been compelled to anticipate the length of the rostrum, in order to place it in either the genera *Dundubia* or *Cosmopsaltria*, to which it undoubtedly belongs. From other characters, I have thought it to belong to the first-named genus, but more specimens are necessary for exact generic determination.

Long. excl. tegm. ♂, 28 to 30 millim.; ♀, 26 to 28 millim. Exp. tegm. ♂, 78 to 85 millim.; ♀, 74 to 78 millim.

Hab.—Continental India: Seebsagar (Calc. Mus.); Assam, Margherita (Doherty—coll. Dist.); Khasi Hills (Chennell—coll. Dist.). Tenasserim: Myitta in the Valley (Doherty—coll. Dist.). Malay Peninsula: Malacca (Wallace—Brit. Mus.).

This species is most variable in coloration, resembling in that respect *D. mannifera*, but the extraordinary shape of the opercula—a perfectly constant character—renders its identity at once discernible.

Genus COSMOPSALTRIA.

Cosmopsaltria, Stål, Hem. Afr. iv. p. 5 (1866); Atkins. J. A. S. Beng. vol. liii. p. 226, n. 53 (1885).
Sub.-gen. *Platylomia*, *Cosmopsaltria*, and *Diceropyga*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 708 *note*.

Closely allied to *Dundubia*, but with the rostrum always reaching and sometimes passing the posterior coxæ; the head also generally has the front *not* twice as broad at the base as the anterior margins of the lobes of vertex. Opercula long, reaching centre and sometimes the apex of the abdomen.

This is a most unsatisfactory genus to define, and may be taken as a good example of the artificiality of some generic creations, though serving a useful purpose in classification.

The length of the rostrum is really the only universal character separating *Cosmopsaltria* from *Dundubia*, though many of its species have, in the shape of the head, a good distinctive characteristic. A number of its species have also unspotted tegmina, a feature of *Dundubia*, though more diverge considerably from this character. It might therefore be more strictly accurate to treat *Cosmopsaltria* as a subgenus or section of *Dundubia*; but as the former already contains an exceedingly large number of species, I have preferred, for the purposes of more easy identification,—an object of the present monograph,—to retain the two generic creations as distinct. For the above reasons I have been compelled to transfer several species I described under *Dundubia* to this genus.

Stål proposed (*supra*) three subgenera of *Cosmopsaltria*, but the study of a large number of species has shown that these must be considerably increased in number to be of any value, and I have found them capable of being somewhat clearly reduced to sections by other characters than those on which Stål relied.

Cosmopsaltria is distributed throughout our faunistic area, and is also found in the Australian and parts of the Pacific Regions.

A. *Head with the front globosely produced as in* Dundubia.
  a. *Opercula more or less constricted on each side near base and with their apices rounded.*
    b. *Tegmina unspotted.*

1. Cosmopsaltria amicta. (Tab. VIII., fig. 4, *a*, *b*.)

Dundubia amicta, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 51 (1889).

Body above brownish-ochraceous. Head with striæ to front and two central longitudinal lines, a broad oblique fascia on each side of vertex between eyes and ocelli, and the area of the ocelli black. Pronotum with two central longitudinal black lines, anterior margin and the inner edge of the posterior margin black; posterior and lateral margins paler in hue, the last crossed by an oblique black fascia emerging from behind the eyes. Mesonotum with five black fasciæ, one central and longitudinal, two short and

directed obliquely inwardly, and one (largest) on each lateral area, but not reaching anterior margin, a black spot in front of each anterior angle of the basal cruciform elevation. Body beneath and legs brownish-ochraceous, femora more or less streaked with black; the tibiæ, tarsi, apex of rostrum, a spot between face and eyes and the apical margin of face black.

Tegmina and wings pale hyaline, the venation fuscous.

The opercula extend to about half the length of the abdomen, are concavely constricted on each side near base and then convexly widened, with their apices rounded.

Long. excl. tegm. ♂, 48 millim. Exp. tegm. 115 millim.

Hab.—Continental India: Karwar (Calc. Mus.).

2. Cosmopsaltria nagarasingna.* (Tab. IV., fig. 14, *a*, *b*.)

Dundubia nagarasingna, Distant, Trans. Ent. Soc. Lond. 1881, p. 635; Atkins. J. A. S. Beng. vol. liii. p. 225, n. 51 (1885).

♂. Body above castaneous. Head with centre of front and an oblique fascia on each side of ocelli ochraceous. Pronotum with a central fascia and the lateral and posterior margins ochraceous. Mesonotum with two anterior central obconical spots denoted by black margins; margins of basal cruciform elevation ochraceous. Abdomen with the basal half sparingly clothed with greyish pile, the apical half much more densely so, and with a broad lateral fascia of greyish pile on each side. Body beneath, with the sternum, legs and opercula, pale ochraceous; abdomen pale castaneous.

Tegmina and wings pale hyaline; costal membrane of tegmina ochraceous.

Head broad, including eyes subequal in width to base of pronotum, and wider than mesonotum; the face is very tumid, the centre longitudinally sulcated for half the length, and sides transversely striated; rostrum reaching apex of posterior coxæ; opercula long, reaching base of last abdominal segment, narrowest and with the edges concave from base to commencement of second abdominal segment, from which they are somewhat suddenly widened with the edges convex; apex somewhat narrower and rounded. Anterior femora with two long ochraceous spines; posterior tibiæ with two long black spines, somewhat close together on inner margin near apex, and two much wider apart on outer margin.

Long. excl. tegm. 34 to 38 millim. Exp. tegm. 88 to 95 millim.

Hab.—Burma (Bingham—coll. Dist.); N.W. Districts (coll. Dist.). Tenasserim: Myitta in the Valley (Doherty—coll. Dist.). Cochin China (coll. Signoret).

3. Cosmopsaltria larus. (Tab. 5, fig. 1, *a*, *b*, and *var.* Tab. IV., f. 13.)

Dundubia larus, Walker, List Hom., Suppl. p. 7 (1858).

Cicada—"The Knife-Grinder," Emerson Tennent, Nat. Hist. Ceylon, p. 432, fig. (1861).

Head and thorax above greenish-ochraceous; abdomen pale castaneous. Head with the lateral areas of face, the area of the ocelli, an angulated fascia in front of eyes, and two small spots on posterior margin near eyes, black. Pronotum with two central, longitudinal, angulated and connected black linear fasciæ, on each side of which is a short curved discal fascia, the incisures and the edges of lateral margins also black. Mesonotum with five black fasciæ, one central and longitudinal, two short and angulated, and the outer two longer, but very irregularly shaped and angularly curved; a black spot in front of each anterior angle of the basal cruciform elevation. Abdomen with some central black discal spots. Head beneath, sternum, legs and opercula ochraceous or greenish-ochraceous; apices of anterior femora, bases and apices of anterior and intermediate tibiæ, bases of posterior tibiæ and anterior and intermediate tarsi black. Abdomen beneath pale castaneous.

Tegmina and wings pale hyaline, the venation ochraceous or greenish, in some places black.

* Nagarasingna, the first conquering Burmese king, who is said to have subdued Arracan.—(Rev. F. Mason, 'Tenasserim,' p. 450).

The opercula are long, about reaching the penultimate segment of the abdomen, concavely constricted on each side near base, and with their apices narrowly rounded.

Long. excl. tegm. ♂, 32 to 38 millim. Exp. tegm. 84 to 100 millim.

Hab.—Continental India: Bombay (Leith—coll. Dist.); Neelgiri Hills, Koonoor 6000 ft. (Hampson—coll. Dist.). Ceylon (Templeton—Brit. Mus.).

There can be no doubt that this is the species figured by the late Sir J. Emerson Tennent, in his 'Natural History of Ceylon,' and named by him "The Knife-grinder," and which he describes as "resting high up on the bark of a tree, make the forest re-echo with a long-sustained noise so curiously resembling that of a cutler's wheel that the creature producing it has acquired the highly appropiate name of the 'Knife-grinder.'" *

4. Cosmopsaltria bocki. † (Tab. IV., fig. 11, *a*, *b*.)

Dundubia bocki, Distant, Ent. Month. Mag. vol. xix. p. 159 (1882).

Head and thorax above dull ochraceous or olivaceous: abdomen, above and beneath, castaneous. Head with the area of the ocelli black; eyes castaneous, speckled with ochraceous. Pronotum with two small black spots at centre of anterior margin, the lateral and posterior margins somewhat paler, the last inwardly and outwardly narrowly edged with black. Mesonotum with two central, contiguous, obconical spots, their bases situate on anterior margin, the outer margins very pale and bordered outwardly at base—and inwardly—broadest at apex—with black; four sub-basal black spots situated one on each side of the anterior angles of the basal cruciform elevation, which is somewhat paler. Tympana ochraceous. Head beneath, rostrum, sternum, legs, and opercula ochraceous; apex of rostrum black; anterior tibiæ, bases, apices, and a subapical annulation to intermediate and posterior tibiæ, fuscous.

Tegmina and wings pale hyaline; tegmina with the veins and costal membrane dull ochraceous, and the claval area inwardly margined with dark fuscous; wings with most of the veins dull ochraceous, a few being fuscous.

The body is elongate; the face is prominent and globose, transversely wrinkled and with a deep and broad central longitudinal sulcation; the opercula are long, about reaching the penultimate abdominal segment, concavely constricted on each side near base, and then broadened and convexly rounded, the apex being broad and rounded.

Long. excl. tegm. ♂, 44 millim. Exp. tegm. 123 millim.

Hab.—Sumatra (Bock—coll. Dist.).

5. Cosmopsaltria similis. (Tab. V., fig. 10, *a*, *b*.)

Dundubia similis, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 292 (1888).

Head and thorax above pale greenish; abdomen pale castaneous. Head with the area of the ocelli somewhat blackish; eyes castaneous, mottled with fuscous, posterior margin very narrowly ochraceous. Mesonotum with a central black longitudinal linear fascia, on each side of which is a short oblique black fascia, which is crossed and partly obliterated by a narrow curved ochraceous fascia; a black spot near each anterior angle of the basal cruciform elevation. Abdomen above with a short, broad oblique fascia of greyish-white pile on each side at base. Head beneath, sternum, legs and opercula pale greenish or greenish-ochraceous. Abdomen beneath pale dull castaneous; apex of rostrum black.

Tegmina and wings pale hyaline, the venation greenish-ochraceous, in some places black; costal membrane of the tegmina greenish.

* 'Natural History of Ceylon,' p. 432.

† Named after Carl Bock, author of 'The Head Hunters of Borneo,' &c., and by whom this species was captured.

The opercula do not reach the penultimate abdominal segment, are only moderately constricted on each side near base, and have their apices broadly but obtusely rounded.

Long. excl. tegm. ♂, 50 millim. Exp. tegm. 122 millim.

Hab.—Continental India: Sikkim (Calc. Mus.; coll. Dist.); Assam (Calc. Mus.).

C. similis is closely allied in general appearance and markings to *C. radha*, Dist., a species which, from the totally different structure of the opercula, I place in another section of the genus.

6. Cosmopsaltria oopaga.* (Tab. V., fig. 9, *a*, *b*.)

Cosmopsaltria oopaga, Distant, Trans. Ent. Soc. Lond. 1881, p. 640; Atkins. J. A. S. Beng. vol. liii. p. 227, n. 58 (1885).

Head dull ochraceous. Posterior lateral margins of front black; two basal ocelli surrounded with black, which extends to posterior margin. Pro- and meso-notum pale olivaceous; the first with a central longitudinal ochraceous fascia, bordered with black, which is widest anteriorly, and rounded, with the black lines continuous posteriorly. Mesonotum with two obconical spots, bordered with black on anterior margin, followed by a small black spot and an anterior lateral fascia; a curved basal fascia and a small spot on each frontal side of cruciform elevation of the same colour. Abdomen dull ochraceous, inclining to olivaceous, with the lateral sides sparingly covered with greyish pubescence, and with an indistinct lateral segmental row of fuscous spots. Underside of body pale ochraceous or olivaceous.

Tegmina and wings pale hyaline.

The body is broad and somewhat depressed, the abdomen narrowing at apex. The head, including eyes, is narrower than base of pronotum, and but little wider than mesonotum. The rostrum about reaches the apex of the first abdominal segment. The opercula, which almost reach the apex of the fourth abdominal segment, are situated on the lateral sides of abdomen, and are much wider apart at base than at apex; they are concavely narrowed on each side near base, and are then widened and convex on each side to apex, which is broad and rounded, the extreme apex being on outer margin. The face is globose, with a curved black fascia at base, and a central longitudinal sulcation; it is profoundly transversely striated, the interstices being very broad.

Long. excl. tegm. 39 millim. Exp. tegm. 96 millim.

Hab.—Burma (coll. Dist.).

I have unfortunately no more precise locality for this species.

7. Cosmopsaltria andersoni.† (Tab. V., fig. 6, *a*, *b*.)

Cosmopsaltria andersoni, Distant, Ann. & Mag. Nat. Hist. ser. 5, vol. ii. p. 170 (1883).

Head olivaceous. Lateral margins of front, area of ocelli, and a small spot on each side of same black. Pro- and mesonotum olivaceous, the first with a central longitudinal ochraceous fascia, bordered with black, widest anteriorly, and compressed about centre, and with a small curved black line behind the eyes; mesonotum with two obconical spots bordered with black on anterior margin, on each side of which is a small discal black streak and a long curved black spot on each side of base near anterior angles of cruciform elevation, which are also black. Abdomen dull dark ochraceous. Underside of body pale ochraceous; annulation to anterior femora near their apices, upper surfaces and apices of anterior

* Shin Oopaga, or Oopagoh; by the Burmese a universally honoured payah-ngè, or lesser divinity, who for having carried off the clothes of a bather in a previous existence is condemned to live at the bottom of the river in a kyee-pya-that, a brazen spire, where he zealously keeps the sacred days, and will remain in those quarters till Areemadehya, the next Buddha, shall come. Then he will be set free, and entering the thenga will become a yahanda, and attain Neh'ban (*cf.* Capt. Forbes, 'Brit. Burma,' p. 194).—(Shway Yoe, 'The Burman, his Life and Notions,' vol. i. p. 272).

† Named after Dr. John Anderson, late Superintendent of the Indian Museum, Calcutta, to whose zoological enterprise in Mergui and its Archipelago, we are indebted for the knowledge of this species.

tibiæ, bases and apices of intermediate and posterior tibiæ, tarsi, apex of rostrum, and apical portion of the last abdominal segment black.

Tegmina and wings pale hyaline, the first with the costal membrane and basal portion of venation ochraceous, remaining portion of venation more or less shaded and marked with black or olivaceous and with a black claval streak; wings with the veins black or ochraceous, and outer claval margin and an inner claval streak fuscous.

The body is broad and somewhat depressed, the abdomen above moderately pilose. The head, including outer margins of eyes, is subequal in width or a very little narrower than base of pronotum. The rostrum about reaches the centre of first abdominal segment. The opercula are long, strongly compressed and concave near base, and then widened and convex on each side, but narrowing at their apices, which reach the base of the last abdominal segment. The face is swollen and tumid, with a narrow central longitudinal sulcation and strong transverse striations, the interstices of which are very broad.

Long. excl. tegm. 32 millim. Exp. tegm. 88 millim.

Hab.—Tenasserim: Mergui (Anderson—coll. Dist.).

This species is allied to *C. oopaga*, Dist., from which its smaller size and greater length of opercula at once distinguish it.

8. Cosmopsaltria jacoona. (Tab. V., fig. 3, *a*, *b*.)

Cosmopsaltria jacoona, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 295 (1888).

Allied to *C. oopaga*, Dist., and very similar above in colour and markings. Differs from that species by the size and shape of the opercula, which are longer,—reaching the penultimate abdominal segment,—narrower, and with their apices somewhat angularly rounded.

Long. excl. tegm. 37 millim. Exp. tegm. 98 millim.

Hab.—Malay Peninsula: Johore (Calc. Mus.). Borneo (coll. Dist.).

bb. *Tegmina with the transverse veins at bases of second and third apical areas infuscated.*

9. Cosmopsaltria majuscula. (Tab. VII., fig. 8, *a*, *b*.)

Dundubia majuscula, Distant, Ann. Mus. Civ. Genoa, ser. 2 *a*, vol. vi. p. 521 (1888).

Body above warm-ochraceous. Head with the front,—excepting base and apex,—the area of the ocelli, and a larger spot on inner margin of eyes, dark castaneous; eyes ochraceous, with their inner area olivaceous. Pronotum with a broad central longitudinal castaneous fascia and a small castaneous spot near anterior lateral margin. Mesonotum with five blackish fasciæ, the central one very slender and joining a triangular fascia in front of basal cruciform elevation, on each side of the central fascia is a short and broader one, and the lateral fasciæ are long, broad and slightly curved. Abdomen above ochraceous. Body beneath ochraceous; the face blackish, with a central ochraceous spot near anterior margin, and a black marginal spot between eyes and face; legs pale castaneous, the inner margins of anterior femora blackish, anterior and intermediate tibiæ and tarsi somewhat darker castaneous, the posterior tarsi ochraceous.

Tegmina and wings pale hyaline, the venation ochraceous, but becoming fuscous towards apical areas; the tegmina with the costal margin fuscous beyond base of upper ulnar area, and the transverse veins at bases of second and third apical areas infuscated.

The body is long and broad; the rostrum reaches the posterior coxæ; the opercula are slender and placed widely apart, concave on each side beyond base, but very slightly so outwardly, the apices rounded and reaching the fourth abdominal segment.

Long. excl. tegm. ♂, 52 millim. Exp. tegm. 132 millim.
Hab.—Celebes:* Menado (A. A. Bruijn—Genoa Mus.).

10. Cosmopsaltria latilinea. (Tab. IV., fig. 15, *a*, *b*.)

Dundubia latilinea, Walker, Journ. Linn. Soc., Zool. vol. x. p. 85, n. 12 (1867).
Cosmopsaltria padda, Dist. Ann. & Mag. Nat. Hist. ser. 5, vol. xx. p. 229 (1887).

Head olivaceous; front with the margins and a central fascia black; vertex with three black fasciæ, one on each side behind the eyes, and one central containing the ocelli and a small angulated black marginal spot near bases of antennæ; eyes dull castaneous. Pronotum olivaceous-green, with a central longitudinal ochraceous fascia margined with black, a black submarginal fascia, and the extreme margin ochraceous. Mesonotum olivaceous-green, with five longitudinal black fasciæ all more or less margined with ochraceous, situate one central and longest extending right across disk and attenuated anteriorly; on each side of this is a shorter fascia extending from anterior margin to about centre, followed again by a long and broader fascia a little before each lateral margin; a small black spot in front of the anterior angles of the cruciform elevation, which is also more or less olivaceous. Abdomen above piceous, more or less clothed with fine greyish pilosity, the tympana and some lateral shadings olivaceous. Head beneath and sternum olivaceous, frontal margin between the eyes black; sternum more or less greyishly pilose; legs olivaceous, an apical annulation to anterior femora, the under surfaces of intermediate and posterior femora, more than apical half of anterior tibiæ, and about apical third of intermediate and posterior tibiæ and the tarsi black. Opercula olivaceous, the inner margin and about apical two-thirds (not quite reaching outer margin) black. Abdomen beneath piceous, more or less greyish pilose.

Tegmina pale hyaline, narrowly olivaceous at extreme base, the venation alternately brownish olivaceous and piceous, the costal membrane olivaceous, two subapical piceous spots situate on the transverse veins at bases of the two upper apical areas, and some minute submarginal piceous spots. Wings pale hyaline, narrowly olivaceous at extreme base, the costal margin ochraceous for about half its length.

The opercula about, or almost, reach the base of the last abdominal segment, are concavely narrowed near base, and ampliated and rounded towards apex; the face is narrowly sulcated for about half its length, and possesses strong transverse ridges; the anterior femora are armed with three spines beneath, one near centre, two near apex, the apical one smallest.

Long. excl. tegm. ♂, 34 to 38 millim. Exp. tegm. 94 to 103 millim.
Hab.—Malay Peninsula: Penang (Brit. Mus.; Rev. L. C. Biggs—coll. Dist.).

10*a*. Cosmopsaltria lauta (*C. latilinea*, var. ?). (Tab. V., fig. 8, *a*, *b*.)

Cosmopsaltria lauta, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 293 (1888).

Head and thorax above ochraceous, with the following black markings:—Head with a central fascia to front, vertex with a central double fascia and a sinuated fascia behind each eye; pronotum with a central double fascia united at base, a large sublateral spot on each side, and a spot beneath on basal margin; mesonotum with a central longitudinal fascia, on each side of which is a short and somewhat oblique fascia, followed by a small spot on anterior margin and a broad, sublateral, irregular fascia, and a spot in front of each anterior angle of the basal cruciform elevation. Abdomen purplish red, the posterior segmental margins ochraceous, excepting those near apex, which are piceous, and with a central

* The *Cicadidæ* of Celebes have still to be collected, for though the islands have been visited by several excellent naturalists, the insects described in this monograph have not greatly engaged their attention. That they exist in numbers may be gathered from the remark of Dr. A. Adams, that "In the forests of Celebes" is heard "the eternal ringing song of the shrill Cicada."—('Notes on Nat. Hist.; Voy. H.M.S. Samarang,' vol. ii. p. 268).

"The Central Continent of the island has not yet seen the face of the white man, and by far the greater part of the four peninsulas is almost unknown and undescribed; in fact, the only parts which are thoroughly explored and utilised by Europeans are not much larger in area than the Isle of Wight and the Isle of Man."—(Sydney J. Hickson, 'A Naturalist in North Celebes,' p. 3).

discal piceous spot near base. Head beneath with the anterior margin black and a central piceous spot near apex of face. Opercula ochraceous, with apices and inner margins broadly black; apex of abdomen beneath black.

Tegmina and wings pale hyaline, the venation more or less fuscous; tegmina with the costal membrane castaneous, the transverse veins at the bases of the second and third apical areas infuscated.

The face is convex, with a central longitudinal incision, which neither reaches base nor apex. The opercula are long and broad, concavely sinuated on their outer margins near base, and with their apices obtusely rounded and about reaching the apical abdominal segment. Rostrum *mutilated*.

Long. excl. tegm. 35 millim. Exp. tegm. 102 millim.

Hab.—Malayan Archipelago: Borneo, Pontianak (Bruss. Mus.); South-East District (Doherty—coll. Dist.).

C. lauta and *C. latilinea* are very closely allied, and they are evidently local races of one species. The principal and most constant colour differences are found on the opercula, which in *C. latilinea* are much more broadly suffused with black than in *C. lauta*.*

11. Cosmopsaltria montivaga. (Tab. XII., fig. 12, *a*, *b*.)

Cosmopsaltria montivaga, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 421 (1889).

Allied to *C. lauta*, Dist., but differing by its larger size, broader and more robust body, the absence of the sublateral fascia to the pronotum, and the presence of an oblique black pronotal spot behind the eyes; the markings of the mesonotum are smaller, and the sublateral fascia curved and not extending to the anterior margin.

Operculæ broader at base, less concave internally, much more narrowly black at apex and inner margin, and crossed at centre by a transverse dark castaneous fascia.

Long. 40 millim. Exp. tegm. 120 millim.

Hab.—Malayan Archipelago: Borneo, Kina Balu Mt. (Whitehead—coll. Dist.).

This species (at present) is only known to the writer by a single male specimen collected on the Kina Balu Mountain. It is probable, however, that it will be found to have a much less restricted habitat.†

12. Cosmopsaltria inermis. (Tab. VI., fig. 15, *a*, *b*.)

C. (Cosmopsaltria) inermis, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 708, n. 3.

Through the kindness of Dr. Aurivillius, of the Stockholm Museum, I am enabled to figure a typical specimen of Stål's species, and I therefore append a copy of the original description:—

"Pallide olivaceo-flavescens vel virescens; macula irregulari ocellos includente, macula angulorum interiorum jugorum, fasciola obliqua leviter curvata ad marginem anticum jugorum prope oculos

* The *Dundubia duarum*, Walk. (Journ. Linn. Soc., Zool., vol. i. p. 141: 1857), recorded from Borneo, appears to be also closely allied to these two species or races, excepting that the opercula are recorded as "extending to the tip of the abdomen." This, however, is only a matter of conjecture, as the type is not in the collection of the British Museum. As many of these specimens belonged to the late Mr. W. Wilson Saunders, I applied to his son for assistance; but he informed me that all his father's Homoptera went to the British Museum, and that he knew of nowhere else to look for them. I also sought help from Prof. Westwood; but he wrote to me that the Hope Museum at Oxford possessed no types or other individuals of Walker's species described from Malacca and Borneo. We must therefore treat this species as not existent. Dr. Stal ('Journal of Entomology,' vol. i. p. 477) proposed that all Walker's Catalogues should be considered as non-existent; but, apart from the quality of Walker's entomological work, which no one can altogether either praise or defend, I have always concluded that where his types exist, his species are recognisable, but where they cannot be found his species should be ignored. The *D. duarum*, Walk., therefore to the writer is an unrecognisable species.

† A very curious distribution was observed in another species of the Homopterous family *Cercopidæ* contained in this collection. In the year 1878 I described from a single specimen collected at Taoo, in Tenasserim, at an elevation between 3000 and 5000 ft., a very extraordinary species of *Cosmoscarta* (*C. masoni*, Dist.). From that time to the year 1889 I never saw another specimen until I observed a second solitary example in the collection made on the Kina Balu Mountain in Borneo by Mr. Whitehead.

incipiente, oblique introrsum et retrorsum ducta, interstitiis rugorum basalium frontis, fascia subbasali genarum, vittis duabus mediis impressionibusque disci thoracis, vittis angustis quinque maculisque parvis duabus pone medium scutelli, tibiis apice tarsisque anterioribus nigris; tegminibus alisque levissime infuscatis, venis olivaceo-flavescentibus, pone medium fuscis, macula anastomosium omnium maculaque prope apicem ramorum ulnarium fuscis."

"♂ & ♀. Long. 29—31, lat. 10—11; exp. tegm. 86—94 mill."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.); Palawan (coll. Dist.).

I have not copied Stål's structural diagnosis, as the figures here given sufficiently explain the same.

13. Cosmopsaltria fuliginosa. (Tab. VI., fig. 16, *a*, *b*.)

Dundubia fuliginosa, Walker, List Hom. i. p. 60, n. 21 (1850); Stål, Öfv. Vet.-Ak. Förh. 1862, p. 480.
Dundubia melpomene, Walk. List Hom. i. p. 76, n. 38 (1850).
C. (*Cosmopsaltria*) *fuliginosa*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 708, n. 2.

Body above dull greenish-ochraceous; head with the margins to face, the lateral striations of front, the area of the ocelli, and a curved discal fascia midway between eyes and front, black; pronotum with two central linear fasciæ and the furrows black; mesonotum with five black linear fasciæ, the central one longest with a shorter one on each side extending from the anterior margin to about centre of disk, the outermost pair commencing at some distance from the anterior margin and almost reaching the posterior margin, a small spot on anterior margin between the two outermost fasciæ and a spot on and another in front of the anterior angles of the basal cruciform elevation, also black. Abdomen pale dull castaneous, the tympanal coverings greenish; the eyes brownish-ochraceous. Head beneath, sternum, legs and opercula greenish-ochraceous; a fascia between face and eyes, the upper striations to face and a spot at apex of same, a spot at apices of anterior femora, a spot at bases of tibiæ and the apices of same, and the anterior and intermediate tibiæ and a broad fascia at apices of opercula, black; abdomen beneath pale castaneous.

Tegmina and wings pale hyaline, the venation brownish-ochraceous; tegmina with the costal membrane greenish-ochraceous, the transverse veins at the bases of the second and third apical areas infuscated.

The body above is more or less sparingly pilose; the opercula extend to the penultimate abdominal segment.

Long excl. tegm. ♂, 31 millim. Exp. tegm. 83 millim.

Hab.—Malayan Archipelago: Philippine Isles (Bruss. Mus. & coll. Dist.; Cumming—Brit. Mus.; Semper—Stockh. Mus.); Cebu (Dresd. Mus.).

This species is closely allied to *C. inermis*, Stål, but differs by its somewhat smaller size, the different length and shape of the opercula, &c.

14. Cosmopsaltria vibrans. (Tab. IV., fig. 2, *a*, *b*.)

Dundubia vibrans, Walker, List Hom. i. p. 54, n. 14 (1850); Stål, Öfv. Vet.-Ak. Förh. 1862, p. 480; Atkins. J. A. S. Beng. vol. liii. p. 224, n. 43 (1885).
Dundubia lateralis, Walk. List Hom. i. p. 61, n. 22 (1850); Atkins. J. A. S. Beng. vol. liii. p. 224, n. 41 (1885).

Head and thorax above ochraceous; head with the lateral striations and a spot at apex of front, area of the ocelli, a curved macular fascia between eyes and front, and the posterior margins of the eyes, black; pronotum with two central longitudinal fasciæ which are angulated and meet posteriorly, the furrows and three small spots on each lateral margin, black; mesonotum with seven black fasciæ, the central one longest, straight and completely crossing disk, on each side of this a shorter and inwardly-directed fascia, followed by a very short one situate on anterior margin, and a long, wide, irregularly-broken fascia on each lateral margin and a black spot near the apex of each anterior angle of the basal cruciform elevation;

abdomen pale castaneous, the segmental incisures narrowly edged with ochraceous and black, and with some obscure blackish and irregular transverse discal fasciæ and a lateral series of small black stigmatal spots; tympanal coverings dull ochraceous. Head beneath, sternum, legs and opercula ochraceous; the transverse striations to face, a fascia between eyes and face, apex of rostrum, apices of tibiæ and the margins of opercula widened at apex, black; abdomen beneath pale castaneous, with some black discal spots.

Tegmina and wings pale hyaline, the venation pale fuscous, tegmina with the costal membrane ochraceous and the transverse veins at the apices of the second and third apical areas infuscated.

The abdomen is more or less pilose; the opercula extend only to the third abdominal segment.

Long. excl. tegm. ♂, 35—38 millim. Exp. tegm. 85—90 millim.

Hab.—Continental India: Assam—Margherita (Doherty—coll. Dist.); Naga Hills (Chennell—coll. Dist.); Sylhet (Stainforth—Brit. Mus.). Malay Peninsula: Malacca (coll. Sign.).

This appears to be a moderately scarce species in collections, and two pairs of the sexes are all that I have as yet been able to acquire, though I am indebted to both Messrs. Chennell and Doherty for extensive collections made in Assam.

15. Cosmopsaltria meyeri.* (Tab. VIII., fig. 5, *a*, *b*.)

Cosmopsaltria meyeri, Distant, Proc. Zool. Soc. 1883, p. 189, t. 25, fig. 2, *a*, *b*.

Body above castaneous. Head with the vertex and front nearly completely suffused with blackish; ocelli and eyes yellowish. Pronotum with a central black longitudinal fascia, the posterior and lateral margins obscure ochraceous. Mesonotum with two large contiguous black obconical spots on anterior margin, a large lateral subconical black fascia on each side, and a triangular black fascia in front of the cruciform elevation, the apex of which is produced between the central obconical spots, and which also possesses posteriorly a central and angulated base. Abdomen very dark castaneous. Body beneath and legs dark castaneous; sternum and base of abdomen thickly and palely pilose; opercula ochraceous, extending to the fourth abdominal segment, concavely constricted beyond base and then slightly and convexly rounded to apex, apical portion distinctly narrower than base (rostrum mutilated).

Tegmina and wings hyaline,† the first slightly infuscated, with the costal membrane, basal area, and venation brownish or fuscous, the transverse veins at bases of second and third apical areas infuscated, and two very small submarginal fuscous spots at apices of the longitudinal veins enclosing the first and second apical areas; wings with anterior claval margin and a basal streak pale fuscous.

The face is very convexly tumid, with a narrow central discal sulcation, and with the transverse striations becoming more profound from base to apex; the anterior femora are armed with two strong spines, one near base and one near apex; between the last and apex is a small and somewhat rudimentary spine.

Long. excl. tegm. ♂, 50 millim. Exp. tegm. 132 millim.

Hab.—Malayan Archipelago: Celebes (Meyer—Dresden Mus.).

Only one specimen of this species has been seen by the writer.

bbb. *Tegmina more or less spotted.*

16. Cosmopsaltria nigra. (Tab. VI., fig. 9, *a*, *b*.)

Cosmopsaltria nigra, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 292 (1888).

Dundubia spinosa, Walk. (nec Fabr.), List Hom. i. p. 47, n. 3 (1850).

♂. Body above and beneath with the legs blackish; eyes and ocelli dark fuscous-brown. Tegmina and wings smoky hyaline, the venation fuscous, the tegmina with the transverse veins at the bases

* Named after Dr. A. B. Meyer, director of the Zoological and Ethnographical Museum of Dresden and well-known naturalist, whose journeys in the Malayan Archipelago, especially in Celebes and New Guinea, have done much in increasing our knowledge of the Zoology and Anthropology of those islands.

† In the process of lithography the hue of the tegmina and wings has been rendered too dark in the figure here given.

of the second and third apical areas, and the apices of the longitudinal veins to apical areas, infuscated.

The rostrum about reaches the apices of the posterior coxæ; the opercula are concavely sinuated a little before centre, their apices convexly rounded and almost reaching apex of fourth abdominal segment.

Long. excl. tegm. 44 millim. Exp. tegm. 110 millim.

Hab.—Malayan Archipelago: Philippine Isles (Brit. Mus.).

This species was erroneously identified by Walker as *Dundubia spinosa*, Fabr. (the type of which, however, is contained in the Banksian collection), and remains under that name in the Museum Catalogue. The habitat is derived from one of those specimens, my own being without a locality.

17. Cosmopsaltria flavida. (Tab. V., fig. 15, *a*, *b*.)

Cicada flavida, Guérin, Voy. Ind. Orient. Belanger, Ins. p. 498, t. 3, f. 1 (1834); Walk. List Hom. i. p. 118, n. 40 (1850).

Cosmopsaltria flavida, Stål, Berl. Ent. Zeit. x. p. 171 (1866); Atkins. J. A. S. Beng. vol. liii. p. 227, n. 60 (1885).

C. (*Platylomia*) *flavida*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 708, *note*.

♀. Head and thorax above dark ochraceous; head with the area of the ocelli and a spot on each side of vertex near front dark fuscous; eyes dark castaneous; pronotum with two short longitudinal central linear fasciæ (not quite reaching centre of disk) and the edges of posterior margin, black; mesonotum with a narrow central linear longitudinal fascia, on each side of which are two short but broader curved fasciæ, the inner pair longest, and a transverse series of four small basal spots, black; abdomen castaneous. Head beneath, sternum, legs and rostrum ochraceous; apices of the tibiæ and tarsi and apex of the rostrum black; abdomen beneath as above.

Tegmina and wings pale hyaline, the venation ochraceous; tegmina with the transverse veins at the bases of the second, third, fifth and seventh apical areas more or less infuscated, and a marginal series of small fuscous spots at the apices of the longitudinal veins to apical areas, the discal portion of the venation ornamented in a few places with black; costal membrane reddish-ochraceous.

Long. excl. tegm. ♀, 50 millim. Exp. tegm. 150 millim.

Hab.—Malayan Archipelago: Sumatra (Guérin); Java (Bruss. Mus.).

The description here given is taken from an unlocalised female specimen in my own collection, but a male specimen belonging to the collection of the Brussels Museum is figured, and the structure of the opercula is thus shown. Stål, by an error (unusual with that excellent worker and describer), wrote* that the *Dundubia saturata*, Walk.—an Indian species of *Cosmopsaltria* described further on—p. 54—was a synonym of *C. flavida*. This lead that careful writer, Mr. Atkinson, to record it as reported from Sikkim.† Guérin's species, however, appears to be strictly confined to the islands of Sumatra and Java, and is certainly not found in Continental India.

18. Cosmopsaltria spinosa. (Tab. IV., fig. 7, *a*, *b*.)

Tettigonia spinosa, Fabricius, Mant. Ins. ii. p. 266, 6 (1787); Ent. Syst. iv. p. 17, 6 (1794); Syst. Rhyng. p. 34, 8 (1803).

Cicada spinosa, Oliv. Enc. Méth. v. p. 748, n. 8 (1790).

Cosmopsaltria spinosa, Stål, Berl. Ent. Zeit. x. p. 171 (1866); Öfv. Vet.-Ak. Förh. 1870, p. 708, n. 1; Dist. Proc. Zool. Soc. 1883, p. 193; Atkins. J. A. S. Beng. vol. liii. p. 227, n. 59 (1885).

Cosmopsaltria abdulla, Dist. Trans. Ent. Soc. 1881, p. 639; Atkins. J. A. S. Beng. vol. liii. p. 226, n. 57 (1885).

* Berl. Ent. Zeit. x. p. 171. † J. A. S. Beng. liii. p. 227, n. 60.

Body above castaneous, more or less covered with greyish pubescence and pilosity. Head with the vertex somewhat sparingly pilose, and the area of the ocelli a little infuscated. Pronotum sparingly pubescent, with a central hourglass-shaped concolorous fascia. Mesonotum with two central and somewhat obsolete obovate spots on anterior margin. Body beneath pale castaneous, the opercula ochraceous; anterior and intermediate femora with the bases and apices fuscous, the central portion pale ochraceous; anterior tibiæ castaneous, with the tarsi pitchy; intermediate tibiæ pale castaneous, with the base narrowly and the apex broadly piceous; posterior legs pale castaneous, apices of femora and the bases and apices of tibiæ dark castaneous.

Tegmina and wings pale hyaline; tegmina with the costal membrane and the basal cell pale castaneous, claval area pitchy, the transverse veins at the second, third and fifth apical areas infuscated, and a submarginal series of small fuscous spots at apices of the longitudinal veins to apical areas; wings with anterior claval margin and a curved basal streak, dark castaneous.

The opercula reach the base of the fourth abdominal segment, their outer margins are deeply narrowed and concave near base, and then are somewhat convex and slightly directed outwardly to apex, which is moderately broad and rounded.

Long. excl. tegm. ♂, 46 millim. Exp. tegm. 116 to 122 millim.

Hab.—Malay Peninsula: Penang, Singapore (coll. Dist.); Malacca (coll. Sign.). Sumatra (Banksian Coll.); Indrapoura (Leyden Mus.). Borneo: Elopura (Pryer—coll. Dist.); Kina Balu Mt. (Whitehead—coll. Dist.). Philippine Isles (Semper—Stockh. Mus.).

This is a variable species in the markings of the tegmina; in some specimens the transverse veins at the bases of the second, third, fourth, fifth and seventh apical areas are infuscated, and in others the marginal spots are also almost absent. The greyish pubescence is also often rubbed and obsolete.

19. Cosmopsaltria umbrata. (Tab. V., fig. 11, *a*, *b*.)

Cosmopsaltria umbrata, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 293 (1888); Ann. Mus. Civ. Genoa, ser. 2 *a*, vol. vi. p. 456 (1888).

♂. Head and thorax above obscure olivaceous. Head with the lateral margins to front, the area of the ocelli, and some irregular spots on each lateral area of the vertex black; eyes ochraceous. Pronotum with two irregular central black fasciæ, ampliated at base and apex, and with two at each lateral margin, the posterior margin with its edge narrowly black and a black spot near lateral angles. Mesonotum with two central blackish obconical spots, between which a narrow black fascia extends to base, and a black spot in front of each anterior angle of the basal cruciform elevation. Abdomen above largely suffused with dull black shadings. Body beneath olivaceous; a central fascia to face, anterior margin between face and eyes, inner margins and apices of femora, and the tibiæ more or less blackish. Opercula olivaceous, their apices and a spot near base blackish. Abdomen beneath olivaceous, largely suffused with black shadings.

Tegmina and wings pale hyaline, the venation fuscous; tegmina with the base and costal membrane fuscous, the transverse veins at the bases of the second, third, fifth, and seventh apical areas and the apices of the longitudinal veins of apical areas infuscated.

The rostrum has the apex pitchy and just passing the posterior coxæ; the opercula are somewhat narrowed, concavely sinuated on each side near base, and narrowed towards apices, which are obtusely angulated and reach the fourth abdominal segment.

Long. excl. tegm. 46 millim. Exp. tegm. 120 millim.

Hab.—Continental India: Sikkim (coll. Dist.); Naga Hills (Calc. Mus.). Burma: Bhamo (Fea—Genoa Mus.).

I have now examined a moderately large series of specimens belonging to this species, and have found no variation in markings or coloration.

aa. *Opercula constricted at base, but with their apices obtusely angulated.*

c. *Tegmina unspotted.*

20. Cosmopsaltria radha. (Tab. IV., fig. 9, *a*, *b*.)

Dundubia radha, Distant, Trans. Ent. Soc. 1881, p. 634; Ann. Mus. Civ. Genoa, ser. 2 *a*, vol. vi. p. 455 (1888); Atkins. J. A. S. Beng. vol. liii. p. 225, n. 49 (1885).

♂. Body above pale castaneous. Head with the area of the ocelli black. Pronotum with the lateral and posterior margins, and a very narrow anterior margin, ochraceous; the last is inwardly margined with two small transverse linear black spots, and the posterior margin has also a very narrow discal inner border of the same colour. Mesonotum with a large central obconical spot on anterior margin, with a very indistinct central line, and with the lateral borders black, outwardly margined with ochraceous; five indistinct black basal spots, three within the anterior angles of the cruciform elevation, and one on each side of the same. Abdomen rather darker in colour, with the segmental sutures pitchy. Underside of the body concolorous; opercula dull ochraceous.

Tegmina and wings pale hyaline; tegmina with the costal membrane and claval area dull ochraceous; wings with the base narrowly of the same colour.

The body is very elongated; the head, including eyes, a little narrower than base of pronotum; the face is prominently convex, faintly longitudinally sulcated, and transversely striated; the rostrum reaches the middle of the posterior coxæ; the opercula are very long, reaching the penultimate abdominal segment; they are suddenly narrowed on first abdominal segment, and then gradually widened and rounded on each side, the maximum width being at junction of second and third abdominal segments, from whence they are gradually narrowed to apex, which is obtusely rounded.

Long. excl. tegm. 53 millim. Exp. tegm. 124 millim.

Hab.—Continental India: Madras Presidency (coll. Dist.); Sikkim and Assam (Calc. Mus.); Naga Hills (Doherty—coll. Dist.). Burma: Teinzo (Fea—Genoa Mus.).

cc. *Tegmina spotted.*

21. Cosmopsaltria saturata. (Tab. V., fig. 17, *a*, *b*.)

Dundubia saturata, Walker, List Hom., Suppl. p. 6 (1858).

Dundubia obtecta, Walker (nec Fabr.), List Hom. i. p. 47, n. 3 (1850).

As this is a somewhat variable species, the original description is given:—

"*Male and Female.* Ferruginous-tawny. Head with two interrupted black bands. Prothorax with eight irregular black stripes; the middle pair curved and dilated hindward. Mesothorax with a black line, and with four broader black stripes, which are more or less excavated; the inner pair shorter than the outer pair, and joining the line; the outer pair joining two black hind spots. Abdomen with whitish tomentum on each side towards the base. Wings with a slight testaceous tinge, ferruginous-tawny at the base; veins tawny, partly black. Fore wings with a brown streak at tip of each of the marginal veins; transverse veins clouded with brown; first transverse vein longer and more oblique than the second, from which it is parted by more than twice its length. *Male.*—Opercula tawny, about two-thirds of the length of the abdomen, much acuminated towards the tips."

Long. excl. tegm. ♂, 40 to 45 millim. Exp. tegm. 106 to 130 millim.

Hab.—Continental India: Nepal (Hardwicke—Brit. Mus.); Ranikhet (coll. Dist.); Sikkim (Hooker—Brit. Mus.; Calc. Mus.; coll. Dist.); Assam (Calc. Mus.); Sylhet (coll. Sign.).

Var. a.—Smaller in size, the opercula reaching the apex of the abdomen.

Hab.—Continental India: Naga Hills (Doherty—coll. Dist.).

Var. b.—Opercula not reaching the apex of abdomen, but with their apices much less angularly produced.

Hab.—Continental India: Naga Hills (Doherty—coll. Dist.).

As previously stated (*antea*, p. 52), Stål erroneously placed this species as a synonym of *C. flavida*, Guér. Walker, however, had previously created the greatest confusion in the identification of his own species, having firstly identified it as the *C. obtecta*, Fabr.,—a species to which it has no similarity,—and subsequently described another specimen as a new species under the name of *saturata*, which is necessarily adopted here.

This is a most variable species, not only as regards the tinting of the tegmina, which are usually clear and not shaded on the basal half, but, what is much more unusual, and even unique in the genus,—as far as the knowledge of the writer at present extends,—the opercula varying in length and in the amount of the angular attenuation of their apices. The species, however, cannot easily be mistaken, as beyond the variations just enumerated, the general characters are of the most uniform and consistent nature.*

aaa. *Opercula not constricted at base, their apices obtusely angulated.*

d. *Tegmina unspotted.*

22. Cosmopsaltria tavoyana. (Tab. V., fig. 4, *a*, *b*.)

Dundubia tavoyana, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 292 (1888).

Above resembling in size, general hue, and markings *D. tripurasura*, Dist., but differing remarkably from that species by the size and shape of the opercula, which have their apices somewhat acutely pointed and reaching the penultimate abdominal segment, their lateral margins being concave near base, convex about centre, and somewhat profoundly concave towards the apices; their colour is also pale olivaceous-green.

Long. excl. tegm. 30 millim. Exp. tegm. 80 millim.

Hab.—Burma (Bingham—coll. Dist.). Tenasserim: Tavoy (Calc. Mus.).

23. Cosmopsaltria tripurasura. (Tab. IV., fig. 8, *a*, *b*.)

Dundubia tripurasura, Distant, Trans. Ent. Soc. 1881, p. 635; Atkins. J. A. S. Beng. vol. liii. p. 225, n. 51 (1885).

♂. Head, pronotum and mesonotum ochraceous. Head: front with a triangular black spot near base, and transverse black striæ which do not meet in the centre; vertex with two large oblique and irregular black fasciæ on disk, and a large irregular black spot on inner margin of eyes. Pronotum with two central longitudinal black fasciæ, and three oblique black striæ on each side, the outer one submarginal and somewhat rounded. Mesonotum with a large central clavate spot, of which the apex terminates on anterior margin, bordered on each side by a subconical spot, followed by a small triangular one, and a wide submarginal fascia, black. Abdomen dull sanguineous, with a series of discal segmental black fasciæ (these are much larger in some specimens and subconfluent), and a lateral segmental row of irregular black spots. Body beneath with the sternum ochraceous, covered with greyish pubescence. Abdomen dull sanguineous; opercula pale sanguineous; legs ochraceous.

Tegmina and wings pale hyaline.

Front very prominent and convex; head, including eyes, narrower than base of pronotum, subequal to mesonotum in width. Opercula subtriangular, well separated at base, gradually becoming more

* This species was probably included in "the great Cicadas" which Sir J. Hooker described "as everywhere lighting on the ground, where they uttered a short, sharp, creaking sound, and anon disappeared as if by magic."—'Himalayan Journals,' vol. i. p. 143.

divergent, and narrowing to apex, which is obtuse, and reaches the fourth abdominal segment. Anterior femora armed with three spines; two moderately large and ochraceous, apical one small and black. Posterior tibiæ with three black spines on inner side near apex, and two smaller and wider apart on outer margin.

Long. excl. tegm. ♂, 33 millim. Exp. tegm. 85 millim.

Hab.—Continental India: Sikkim (Calc. Mus. & coll. Dist.); Assam, North Khasi Hills, 1500 to 3000 ft. (Chennell*—coll. Dist.).

cc. *Tegmina with the transverse veins at the bases of the second and third apical areas infuscated.*

24. Cosmopsaltria durga.† (Tab. IV., fig. 6, *a*, *b*.)

Cosmopsaltria durga, Distant, Trans. Ent. Soc. 1881, p. 637; Atkins. J. A. S. Beng. vol. liii. p. 226, n. 56 (1885).

♂. Head, pronotum, and mesonotum dull ochraceous. Head with the following black markings:—an irregular spot on front; a large central fascia on vertex, reaching from anterior to posterior margins, produced on each side in front, and enclosing ocelli; a curved fascia a little before inner margin of eyes, and a subtriangular spot on apex of lateral margin. Pronotum with the anterior margin (narrow), a central longitudinal fascia, bordered with black on each side, and a biangulated fascia on each lateral margin, pale ochraceous; two narrow oblique fasciæ on each side, a narrow longitudinal fascia on each side of disk, inner posterior, and inner and outer lateral margins, black. Mesonotum with a clavate central longitudinal fascia, bounded on each side by a shorter, broader, and much angulated one, followed by an elongated spot, and by a sublateral broad fascia, broken near anterior margin, two rounded spots near base, and two smaller ones on anterior branches of cruciform elevation at base. Abdomen pale castaneous, disk piceous, gradually widening from base to apex, where it is wholly black. Under side body ochraceous and unspotted; a black spot on inner margin of eyes, anterior tibiæ and tarsi, apices of intermediate tibiæ and tarsi, and apex of rostrum, piceous. Opercula pale greenish.

Tegmina and wings pale hyaline, transverse veins at bases of second and third apical areas, infuscated.

Face broadly sulcated in centre, and transversely striated (many of the striæ black); rostrum passing posterior coxæ, and reaching inner angles of opercula. Opercula reaching the third abdominal segment, their outer margins subparallel with lateral abdominal margins, hipped and widest (but not meeting) near bases of posterior femora, from thence diverging and gradually narrowing to apex, which is obtusely angulated. Anterior femora with two long and prominent teeth, and a shorter one near apex. Posterior tibiæ with three inner and two outer long marginal spines. Abdomen broad, apex obtuse.

Long. excl. tegm. ♂, 33 millim. Exp. tegm. 98 millim.

Hab.—Continental India: Assam, North Khasi Hills, 1500 to 3000 ft. (Chennell—coll. Dist.); Naga Hills (Calc. Mus.).

25. Cosmopsaltria opalifera. (Tab. V., fig. 2, *a*, *b*.)

Dundubia opalifera, Walker, List Hom. i. p. 56, n. 16 (1850).

Head and thorax above olivaceous; head with the lateral striations to and a spot near base of front, the area of the ocelli, and a large irregular lateral fascia in front of eyes, black; pronotum with two central black fasciæ in somewhat hourglass-shape, the furrows, a spot near each lateral angle of posterior margin, and the extreme lateral margin, black; mesonotum with five large black fasciate spots, of which two are obconical with their bases on the anterior margin, one large central and subtriangular,

* Mr. A. W. Chennell, in the year 1878, probably brought home the finest collection of insects—principally Coleoptera and Rhynchota—which had till then been made on the North-Eastern Frontier of India. This collection had been made by himself, and chiefly on the North Khasi, the Eastern Garo, and the Naga Hills. I described and enumerated the Heteroptera (Ann. & Mag. Nat. Hist. 1879); the Coleoptera were examined by Mr. Bates, and found a home in his rich collection. Mr. Chennell, shortly after his return to India, met with an accident, which ultimately caused his death; but he should be always remembered as an enthusiastic and assiduous collector in Entomology.

† A form of the two-fold female nature of Śiva—(Bhairvī Durgā)—a malignant being delighting in blood.—(Monier Williams).

and one somewhat broken occupying each lateral area; abdomen above blackish,* the tympanal coverings ochraceous. Head beneath, sternum, legs, and opercula ochraceous; apices of anterior femora, the apices of the tibiæ and tarsi, the transverse striations and longitudinal sulcation to face, and the margins of the opercula black; abdomen beneath castaneous, the apex pitchy.

Tegmina and wings pale hyaline, the venation brownish; tegmina with the costal membrane brownish-ochraceous, the transverse veins at the bases of the second and third apical areas infuscated.

The opercula are short, narrowed and angulated at apices, and reach the third abdominal segment.

Long. excl. tegm. ♂, 30 millim. Exp. tegm. 82 millim.

Hab.—Corea (Belcher†—Brit. Mus.). Japan (Pryer—coll. Dist.); Yokohama (Bruss. Mus.); Tokio (Lewis—coll. Dist.); Southern Isld. (Leech—coll. Dist.).

This appears to be a somewhat abundant species in Japan; each of the collections made by Messrs. Lewis, Pryer, and Leech contained it, and in fair series.

26. Cosmopsaltria microdon. (Tab. IV., fig. 16, *a*, *b*.)

Dundubia microdon, Walker, List Hom. i. p. 55, n. 15 (1850); Atkins. J. A. S. Beng. vol. liii. p. 224, n. 40 (1885).

Closely allied to *C. opalifera*, Walk., but larger; the opercula are much longer, and extend to the penultimate segment of the abdomen; they are also less concavely sinuate and more gradually narrowed towards apex. The body is relatively much more robust.

Long. excl. tegm. ♂, 30 millim. Exp. tegm. 90 millim.

Hab.—Continental India: "North India," *sic* (Wallich—Brit. Mus.); Sikkim (coll. Dist.).

27. Cosmopsaltria nicomache. (Tab. IV., fig. 12, *a*, *b*.)

Dundubia nicomache, Walker, List Hom. i. p. 67, n. 30 (1850); Atkins. J. A. S. Beng. vol. liii. p. 224, n. 44 (1885).
Cicada delineata, Walk. Ins. Saund., Hom. p. 17 (1858).

As a female is here figured, Walker's description of that sex is also given as follows:—

"Black, testaceous beneath. Head testaceous about the eyes, and with two irregular testaceous stripes. Front testaceous, with transverse black streaks. Prothorax with six various black stripes; sutures partly black; margin testaceous, with three black spots on each side. Mesothorax with six irregular testaceous stripes, and with a testaceous spot and a testaceous dot on each side in front between the intermediate and exterior pair of stripes. Abdomen with a testaceous band on the hind border of each segment; under side mostly testaceous. Legs testaceous; femora and tibiæ with black stripes. Wings vitreous; veins black, testaceous towards the base; first transverse vein upright, slightly curved, parted by more than thrice its length from the second, which is slightly oblique; third and fourth oblique."

♂. Male with the opercula ochraceous, broad and long, their outer margins parallel with the lateral margins of the abdomen, their inner margins straight, parallel and contiguous for a short distance, and then gradually and convexly oblique to apices, which are broad, rounded, and extend to the upper margin of the penultimate segment of the abdomen.

Long. excl. tegm. ♂, 25 millim. Exp. tegm. 78 to 80 millim.

Hab.—Continental India: North India, *sic* (Warwick—Brit. Mus.); Sikkim (Calc. Mus. & coll. Dist.); Upper Assam, Margherita (Doherty—coll. Dist.); Naga Hills (coll. Dist.).

This appears to be a somewhat abundant species in the hilly region to which it is apparently confined.

* By some mischance the figure in printing has failed to maintain its dark coloration.

† This insect was evidently discovered and captured during the surveying voyage of H.M.S. 'Samarang,' commanded by Capt. Sir Edwd. Belcher, with Dr. A. Adams on board as Naturalist.

28. Cosmopsaltria minahassæ.* (Tab. VI., fig. 17, *a*, *b*.)

Cosmopsaltria minahassæ, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 294 (1888).

Dundubia doryca, Walk. (nec Boisd.), List Hom. i. p. 47 (1850).

♂. Body above pale obscure olivaceous, more or less covered with pale ochraceous pile. Head with the front anteriorly striated and with two apical, black, central spots; vertex with some scattered black spots, the ocelli reddish. Pronotum with a central, longitudinal, ochraceous fascia, bordered with black and with an irregularly rounded black linear spot near each lateral margin. Mesonotum with seven black spots, three central and two near each lateral margin, and a black spot in front of anterior angles of cruciform elevation. Tympana with grey pilosity; abdomen above also much shaded with greyish pile. Body beneath greyish, with an olivaceous tinge; apical portion of the face black; apices of the femora and tibiæ and the tarsi dark fuscous; apical abdominal segment infuscated, anal appendage with a central fuscous fascia.

Tegmina and wings pale hyaline, venation brownish, ochraceous at the base of upper ulnar area, and the transverse veins at the bases of the second and third apical areas broadly infuscated.

The opercula are pale olivaceous, somewhat gradually narrowing towards apices, which are obtusely angulated and reaching the apex of the fourth abdominal segment; rostrum reaching the second abdominal segment, its apex fuscous.

Long. excl. tegm. 35 millim. Exp. tegm. 100 millim.

Hab.—Malayan Archipelago: Celebes, Menado (coll. Dist.); Ceram (Brit. Mus.).

A specimen of this species from Ceram was identified by Mr. Walker as *Dundubia doryca*, Boisd., and thus catalogued by him.

aaaa. *Opercula short.*

29. Cosmopsaltria sita. (Tab. IV., fig. 5, *a*, *b*.)

Cosmopsaltria sita, Distant, Trans. Ent. Soc. 1881, p. 636; Atkins. J. A. S. Beng. vol. liii. p. 226, n. 55 (1885).

♂. Head: front with a central fascia furcate anteriorly, and an oblique spot on each side at the base; vertex with a large triangular spot enclosing ocelli, and an irregular longitudinal fascia near inner margin of eyes, black. Pronotum with two central longitudinal fasciæ joined and rounded near posterior margin, widened and angulated near anterior margin; on each side of these is a small discal waved line, and two oblique fasciæ near lateral margins (the outer one submarginal and rounded), black. Mesonotum with a central longitudinal fascia; on each side of this a clavate, smaller and suboblique fascia, followed by two linear spots on anterior margin, and a discal waved irregular fascia on each side. Abdomen with the segments (excluding first) more or less piceous at base, and with a lateral segmental row of piceous spots. Body beneath ochraceous and unicolorous.

Tegmina and wings pale hyaline; tegmina with the venation of basal half ochraceous, and apical half fuscous; transverse veins at bases of second and third apical areas broadly infuscated; transverse veins at bases of first and second ulnar areas fuscous, ochraceous at junction.

The head, including eyes, is considerably narrower than base of pronotum; the face is only moderately convex, sulcated from beyond the middle, the sides distinctly striated (the face has also an oblong spot bordered with black at base, and the upper striations are also of that colour). The opercula reach the third abdominal segment; they are moderately truncate outwardly, widened and angulated inwardly (but not meeting) on first abdominal segment, and then diverging and narrowing to apex, which is obtuse and rounded; the inner margin is slightly convex. Rostrum reaching a little beyond posterior coxæ. Anterior femora with two strong spines.

Long. excl. tegm. 24 millim. Exp. tegm. 73 millim.

Hab.—Continental India: Bombay Province (coll. Dist.); Karwar (Calc. Mus. & coll. Dist.).

* "The word Minahassa means a country that has been formed by the binding together of a number of territories into one. The principal word in it is derived from 'asa,' meaning 'one'; the verb 'mahasa' signifies 'to join into one,' whilst the prefix 'ni' turns the word into a substantive."—S. J. Hickson, 'A Naturalist in North Celebes,' p. 205.

30. Cosmopsaltria diminuta. (Tab. XII., fig. 14, *a*, *b*.)

Dundubia diminuta, Walker, List Hom. i. p. 74, n. 36 (1850); ibid. iv. tab. 1, f. 1 (1852).

Head and thorax above dark ochraceous; head much suffused with dark fuscous, eyes castaneous; pronotum with two central longitudinal black linear fasciæ, on each side of which is a small black spot, and a black patch occupying each lateral area; mesonotum with two central obconical black spots on anterior margin, between which is a central black longitudinal line, a large spot occupying each lateral area, and a small spot in front of each anterior angle of the basal cruciform elevation, black. Abdomen above ochraceous, much suffused with black on disk, the apex and some lateral marginal spots also black. Body beneath, opercula and legs ochraceous; face with the lateral striations black.

Tegmina and wings pale hyaline, the venation fuscous; tegmina with the transverse veins at the bases of the second and third apical areas infuscated, and in some specimens some faint and small fuscous marginal spots at apices of the longitudinal veins to the upper apical areas.

Opercula small, their inner margins oblique, their apices broadly rounded and reaching the third abdominal segment.

Long. excl. tegm. ♂, 19 to 20 millim. Exp. tegm. 50 to 55 millim.

Hab.—Continental India: Bombay Province, Karwar (Calc. Mus. & coll. Dist.).

This is another species now localised for the first time, as Walker's type was without a habitat.

B. *Head broad, the front not prominently produced.*

c. *Opercula broad, more or less constricted on each side near base, their apices broadly rounded.*

f. *Tegmina with the transverse veins at bases of second and third apical areas infuscated.*

31. Cosmopsaltria doryca. (Tab. VII., fig. 1, *a*, *b*.)

Cicada doryca, Boisduval, Voy. Astrol. ii. p. 609, 1, Hém. t. 10, f. 3 (1832).

Cosmopsaltria doryca, Stål, Berl. Ent. Zeit. x. p. 170 (1866).

Body above brownish-ochraceous; head with the ocelli narrowly margined with black; pronotum with two central longitudinal black linear fasciæ, rounded and united posteriorly, the outer sutures also black; mesonotum with five black fasciæ, consisting of one central straight and crossing disk, on each side of this a shorter curved fascia, and a longer slightly waved fascia on each lateral area, a black spot on apices of each anterior angle of the basal cruciform elevation and a similarly coloured spot on anterior margin between the two outer fasciæ; abdomen above with a central black spot at base, followed by a central linear spot on the following segment, and a black spot at base of each tympanal covering, lateral margins more or less greyishly pilose. Body beneath ochraceous; apices of the tibiæ, anterior and intermediate tarsi, apex of the rostrum, and the inner and apical margins of the opercula, black; abdomen beneath brownish-ochraceous.

Tegmina and wings pale hyaline, the venation brownish-ochraceous; tegmina with the costal membrane ochraceous and the transverse veins at the bases of the second and third apical areas infuscated.

The opercula are broad, concavely sinuate on each side near base, and then more or less convexly rounded to apices, which are broad and obtusely rounded, and extend to the anterior margin of the fifth abdominal segment.

Long. excl. tegm. ♂, 35 millim. Exp. tegm. 105 millim.

Hab.—Malayan Archipelago: New Guinea, Amberbaki (coll. Dist.); Mansinam and Awek Jobi (Bruijn*—Genoa Mus.); Dorey (Voy. de L'Astrolabe).

* "Négociant à Ternate"—"En 1875-76, le navire à vapeur de l'Etat *Soerabaja*, commandé par le capitaine-lieutenant P. Swaan, fit un voyage très important à la Nouvelle-Guinée. Ce navire avait à son bord le résident de Ternate, A. J. Langeveldt van Hemert, deux princes de Tidore, le célèbre naturaliste O. Beccari et M. Bruijn."—Prince Roland Bonaparte, 'Les derniers Voyages des Néerlandais a la Nouvelle-Guinée,' p. 3 (1885).

This species is at present only recorded from the north-western coast of the island of New Guinea. Boisduval only figured the underside, and that by comparison will be found to be but moderately accurate.

ff. *Tegmina more or less spotted.*

32. **Cosmopsaltria lata.** (Tab. VII., fig. 4, *a*, *b*.)

Dundubia lata, Walker, Journ. Linn. Soc., Zool. vol. x. p. 87, n. 14 (1867).

The following is Walker's description:—

"*Male.* Testaceous, broad. Head black between the ocelli, and with a transverse black mark on the face next the front. Prothorax with a narrow abbreviated black band on the fore border, and with two black points on the hind border of the scutellum. Mesothorax with five slender black stripes; middle stripe fusiform towards the hind border; inner pair widely interrupted, consisting of a clavate streak in front, and of a dot near the hind border; outer pair widely interrupted, forming a point on the fore border and a posterior streak; a little lanceolate black streak on the fore border between the inner pair of stripes and the outer pair. Abdomen piceous, tawny beneath. Ventral opercula white-bordered, full half the length of the abdomen, with two broad bands; first band brown; second blackish. Wings pellucid; transverse veins, from the first to the fourth, clouded with dark brown; vein along the apical hind part of the second discoidal areolet clouded with dark brown; a fusiform dark brown spot on each of the seven marginal veins; veins pale ochraceous, with a few black marks."

Long. excl. tegm. ♂, 37 millim. Exp. tegm. 115 millim.

Hab.—Malayan Archipelago: Timor (Forbes—coll. Dist.); Bouru (Wallace—Brit. Mus.).

33. **Cosmopsaltria capitata.** (Tab. VII., fig. 6, *a*, *b*.)

Cosmopsaltria capitata, Distant, Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 523 (1888).

♂. Body above olivaceous-brown. Head with the anterior margins darker, the ocelli red. Pronotum with the anterior margin, two contiguous central longitudinal lines from which two oblique lines radiate from about centre on each side, an irregular spot, an oblique line on apical area, and the inner border of posterior margin castaneous; the lateral angles of posterior margin ochraceous. Mesonotum with three slender and obscure central fasciæ forming two fused obconical spots. Abdomen above olivaceous-brown, the tympanal coverings ochraceous. Body beneath paler, the face with the lateral striations castaneous, the anterior and intermediate tibiæ and tarsi castaneous.

Tegmina and wings pale hyaline, the venation fuscous and ochraceous; tegmina with a black and ochraceous costal spot at base of upper ulnar area, the transverse veins at bases of second, third, fifth and seventh apical areas infuscated, and a marginal row of fuscous spots situate on the apices of the longitudinal veins to apical areas.

The head is considerably produced in front of the eyes; the rostrum just passes the posterior coxæ; the opercula are short, broad, nearly meeting, slightly concave outwardly, and their apices are broad, somewhat obliquely convex, and about reaching the base of the fourth abdominal segment; they are also pale obscure ochraceous and unicolorous.

Long. excl. tegm. ♂, 35 millim. Exp. tegm. 116 millim.

Hab.—Malayan Archipelago: Aru Islds. (Rosenberg—Leyden Mus.); Wokan (Beccari—Genoa Mus.); Salwatty Isld., Kulo-kaddi (D'Albertis—Genoa Mus.). New Guinea: Dorey (Beccari—Genoa Mus.).

ee. *Opercula constricted at base, but very much broader at apex than at base.*

34. **Cosmopsaltria serva.** (Tab. IX., fig. 3, *b*.)

Dundubia serva, Walker, List Hom. i. p. 60, n. 20 (1850).

The headless type of this species is alone known to the writer; it is here figured, and the original description of Walker is reproduced:—

"Head wanting; body brownish-tawny; fore-chest broadest near the base of the fore-wings; scutcheon adorned with two black stripes, furrows blackish; hind-scutcheon tawny, with a black hind border, widened, slightly angular and armed with a moderate sized tooth on each side; scutcheon of the middle-chest adorned with five black stripes; the side pairs oblique, the inner pair short, the outer pair much interrupted; hind border tawny, very slightly excavated; breast tawny; abdomen obconical, much longer than the chest, tawny beneath; opercula blackish; drums tawny, very large, more than half the length of the abdomen, narrow at the base, slightly overlapping towards their tips; legs tawny; fore-shanks, feet, and tips of the other shanks darker; tips of the claws black; fore-thighs armed with three black teeth, of these two are long, and one is very small; wings colourless; veins black, tawny towards the base and along the fore border."

"Length of the body 12 lines; of the wings 36 lines."

Hab.—Corea (Belcher—Brit. Mus.).

35. Cosmopsaltria spathulata. (Tab. VI., fig. 3, *a*, *b*.)

C. (*Cosmopsaltria*) *spathulata*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 709, n. 4.

A typical specimen belonging to the Stockholm Museum is here figured, and therefore Stål's original description is also given:—

"Remote griseo-sericea, olivacea-flavescens, in ferrugineum leviter vergens, scutello dorsoque abdominis obscurioribus, limbo thoracis pallescente; maculis capitis, vittis duabus mediis ad limbum posticum abbreviatis thoracis, vittis angustis tribus, lateralibus ante medium, media pone medium abbreviata, maculisque parvis duabus posterioribus scutelli nigris; tegminibus alisque sordide vitreis, immaculatis, venis olivaceo-flavescentibus, pone medium fuscis."

"♂, ♀. Long. 26—28, lat. 9½—10, exp. tegm. 78—80 mill."

Hab.—Philippine Isles (Semper—Stockh. Mus.).

As the species is here figured it is unnecessary to give Stål's structural diagnosis, the principal features being carefully pourtrayed.

36. Cosmopsaltria operculissima. (Tab. V., fig. 5, *a*, *b*.)

Cosmopsaltria operculissima, Distant, Trans. Ent. Soc. 1881, p. 641.

♂. Body above castaneous. Head with lateral margins of front, lateral margins of vertex, area of ocelli, and an irregular spot between ocelli and eyes, black. Pronotum with two central, longitudinal, slightly curved, black fasciæ, concave externally, a small curved fascia on each side of disk, and the oblique striæ also black. Mesonotum very dark castaneous, with two obconical spots on anterior margin, denoted by black margins, and with some very indistinct darker shadings on lateral sides of disk. Cruciform elevation at base pale castaneous. Abdomen somewhat darker on disk and near lateral margins. Body beneath much paler, and clothed with ochraceous pubescence; face castaneous, with the centre black; opercula ochraceous, with a broad subapical fuscous band, both above and below.

Tegmina and wings pale hyaline; veins, costal membrane, basal area, and claval margin of tegmina castaneous.

Abdomen very short, less than length from front of head to base of mesonotum; head broad, including eyes, equal to width of pronotum at base; opercula very large, about reaching apex of abdomen, and abutting on each side of apical lateral margins; they are narrow, and situated wide apart at base, narrowed and concave on each side about basal abdominal segment, and then broadly widened and convex on each side, particularly so inwardly, where they considerably overlap on disk of abdomen. Apices broad, and somewhat angularly rounded. Face with a broad central sulcation, and the sides strongly and transversely striated. Rostrum about reaching posterior coxæ.

Long. excl. tegm. ♂, 24 millim. Exp. tegm. 78 millim.

Hab.—Malayan Archipelago: Borneo: Sandakan (Pryer—coll. Dist.).

The peculiar structure of the opercula which allies this and the two preceding species, has in *C. operculissima* reaching its maximum development. It is, however, more than probable that other allied species remain to be discovered.

eee. *Opercula slightly constricted at base, narrowed towards apex.*

37. Cosmopsaltria mongolica. (Tab. IV., fig. 3, *a*, *b*.)

Cosmopsaltria mongotica, Distant, Trans. Ent. Soc. 1881, p. 638.

Body above ochraceous; head with the black markings as in *C. durga;* pronotum with two central longitudinal fasciæ placed close together, narrowed, rounded, and meeting on posterior margin, more separated and widened on anterior margin, and on each side of these a curved fascia followed by two oblique ones. Mesonotum marked and spotted as in *C. durga*. Abdomen with a series of transverse, irregular, dull castaneous discal fasciæ, becoming confluent, and occupying the whole of apex, and a lateral segmental series of irregular-shaped spots of the same colour. Body beneath pale ochraceous, a large spot on inner margin of eyes, apical margins of face and apex of rostrum, piceous.

Tegmina and wings pale hyaline.

Face not prominently convex, with the disk sulcated and the margins strongly striated. Rostrum passing posterior coxæ, about reaching inner angles of opercula; opercula reaching third abdominal segment, with the outer margins parallel with lateral margins of abdomen for half their length, then becoming convex, and again narrowed to apex, widened inwardly, but not meeting at apex of first abdominal segment, and then narrowed and divergent to apex, which is broad and rounded. Posterior tibiæ with two long spines on inner and outer margins.

Long. excl. tegm. ♂, 31 millim. Exp. tegm. 82 millim.

China: Northern district? (coll. Dist.).

38. Cosmopsaltria silhetana. (Tab. VI., fig. 1, *a*, *b*.)

Cosmopsaltria silhetana, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 295 (1888).

Body above shining brownish olivaceous. Head with two central black spots on front and with an irregular black fascia across vertex, widening at area of ocelli, and the posterior margin of the eyes black. Pronotum with two central black fasciæ, the oblique incisures black, the basal margin greenish. Mesonotum with the following black markings:—a central longitudinal fascia, on each side of which is a slightly oblique obconical spot; these are each followed by a very much smaller spot, and again by a short, broad, irregular spot, all starting from anterior margin; two long discal spots and a small rounded spot in front of each anterior angle of basal cruciform elevation. Abdomen above with the disk much shaded with dark shining fuscous; posterior segmental margins greenish. Body beneath very pale olivaceous, with a greyish tinge; face with the apex and a central fascia black; apex of rostrum, apices of the tibiæ, anterior tarsi, and bases and apices of intermediate and posterior tibiæ fuscous.

Tegmina and wings pale hyaline, venation brownish; costal membrane and base of upper ulnar area ochraceous; transverse veins at bases of second and third apical areas infuscated.

The rostrum reaches the apex of the posterior coxæ; the opercula gradually narrow towards apices, which are obtusely angulated and reach the fourth abdominal segment.

Long. excl. tegm. 28 millim. Exp. tegm. 72 millim.

Hab.—Continental India: Sylhet (coll. Dist.).

39. Cosmopsaltria opercularis. (Tab. V., fig. 16, *a*, *b*.)

Dundubia opercularis, Walker, Ins. Saund., Hom. p. 7 (1858).

As the specimens of this species now contained in my collection have been preserved in spirit, and thus lost their original coloration, I give Walker's original description :—

"*Male*. Green, varied with testaceous. Head with a black band, which is interrupted and contains two spots on each side; front with the usual black streaks. Prothorax with some black marks on each side, and with a testaceous black-bordered stripe. Mesothorax with a black stripe, which is dilated hindwards, and has a black dot on each side; two incomplete and irregular lateral black stripes. Abdomen testaceous, with a row of black spots along each side; dorsal opercula large, conical; ventral opercula elongate-conical, two-thirds of the length of the abdomen. Wings vitreous, their tips very slightly tinged with pale brown; veins green or testaceous, black towards the tips. Fore wings with a whitish stigma; first and second transverse veins clouded with black; first curved, almost upright, parted by more than twice its length from the second, which is oblique; third and fourth hardly undulating."

Long. excl. tegm. ♂, 24 to 32 millim. Exp. tegm. 66 to 90 millim.

Hab.—Malayan Archipelago: Celebes (Brit. Mus.; Meyer—Dresd. Mus. & coll. Dist.).

This species not only varies greatly in size, but also appears to be strictly confined to Celebes.

40. Cosmopsaltria lutulenta. (Tab. VII., fig. 7, *a*, *b*.)

Cosmopsaltria lutulenta, Distant, Ann. Mus. Civ. Gen. ser. 2*a*, vol. vi. p. 522 (1888).

Body above dark brownish. Head with the margins of the ocelli, the posterior margins of eyes and a spot on margin of vertex at each side of front, black. Pronotum with two black central marginal spots both on anterior and posterior margins, the incisures also somewhat blackish. Mesonotum with five black fasciæ; the central one slender and longitudinal, followed on each side by a short and inwardly curved fascia, the lateral fasciæ long, broad and broken; between the two last fasciæ is a short marginal spot and a rounded spot in front of each anterior angle of the basal cruciform elevation, black. Body beneath pale brownish, the abdomen—excluding anal appendage—darker brown.

Tegmina and wings obscure hyaline, the venation fuscous, the tegmina with the transverse veins at the bases of the second and third apical areas infuscated.

The face is long and somewhat compressed, the transverse striations somewhat blackish; the rostrum reaches the posterior coxæ; the opercula are well separated, concavely sinuate near base, narrowed to, and rounded at, apices, which reach the base of the fifth abdominal segment. The third apical area of the tegmina is long and has its base at about centre of upper ulnar area.

Long. excl. tegm. ♂, 28 millim. Exp. tegm. 80 millim.

Hab.—Malayan Archipelago: New Guinea, Salwatty (D'Albertis—Genoa Mus.).

This is one of the few species captured by Signor D'Albertis during his stay at the island of Salwatty,* and at present our knowledge of the New Guinea *Cicadidæ* is quite confined to those found in its North-Western Regions. I have seen no specimens of the family captured by this naturalist during his explorations of the Fly River.

* It is more than probable that the insect fauna of Salwatty is still very little known, as Signor D'Albertis had bad health during his visit. "It is hardly a fortnight since we disembarked on this island with our four servants, and to-day all of us, with the exception of Beccari, have been attacked by fever."—(D'Albertis, 'New Guinea,' vol. i. p. 44).

41. Cosmopsaltria impar. (Tab. X., fig. 16, *a*, *b*.)

Dundubia impar, Walker, Journ. Linn. Soc., Zool. vol. x. p. 86, n. 13 (1867).

This species is only known to the writer by the typical specimen in the British Museum, a figure of which, with the original description, is here given :—

"*Male*. Green. Head and thorax more or less testaceous. Head with a black ringlet about each of the ocelli, and with two elongated black dots on each side of the front; face with a middle abbreviated black line, and with transverse black points along each side. Prothorax with two black lines as in *D. latilinea*, but the lines are much interrupted; a black point on each point; sutures partly black. Mesothorax with five black stripes; middle stripe entire; inner pair composed of a streak and a hinder spot, the streak dilated at its hind end and slightly curved; outer pair interrupted near the fore border, much excavated in the middle; a lanceolate black spot on the fore border between the inner pair and the outer. Abdomen tawny; hind borders of the segments green; a large black spot at the base; underside with interrupted piceous bands; an entire hinder black band. Ventral opercula full two-thirds of the length of the abdomen. Anterior tarsi with piceous tips. Wings pellucid; veins ochraceous, varied with black; first and second transverse veins with elongated blackish spots."

"Var. β. Lines of the prothorax entire."

"*Female*. Testaceous. Middle stripe of the mesothorax sometimes interrupted; outer pair very much interrupted. Abdomen with black points along each side above and beneath; a black lanceolate spot on each side near the tip; underside with a black middle spot near the tip."

"Length of the body 11—12 lines, of the wings 36—38 lines."

Hab.—Malayan Archipelago: Waigiou (Wallace*—Brit. Mus.).

42. Cosmopsaltria insularis. (Tab. IX., fig. 12, *a*, *b*.)

Dundubia insularis, Walker, List Hom., Suppl. p. 8 (1858).

"*Male*. Testaceous. Head with black transverse streaks on each side of the face, and with a black band on the vertex. Prothorax with two black stripes, which are dilated in front and behind, and with six black lateral streaks; sides edged with black, denticulate in the middle. Mesothorax with a black stripe, which is widened hindward, and accompanied by a black dot on each side; four lateral streaks, the inner pair short. Abdomen with black transverse marks near the base, and with a row of black dots on each side. Wings vitreous; veins testaceous, black towards the tips. Fore wings with the first and second transverse veins oblique, shaded with black, parted from each other by a little more than their joint length; third and fourth very oblique, of equal length."

"Length of the body 11 lines; of the wings 28 lines."

Hab.—Malayan Archipelago: Celebes (Pfeiffer†—Brit. Mus.).

I only know this species from the type specimen (which is here figured) now contained in the collection of the British Museum.

* Mr. Wallace stayed at this island from July to September, 1860, and during that limited period, "For near a month we had wet weather, the sun either not appearing at all, or only for an hour or two about noon" (Wallace, 'Malay Archipelago'). This again clearly shows the difficulties under which adventurous naturalists labour, and the results of their visits afford *samples* only of these insular faunas.

† Madame Ida Pfeiffer, who collected the specimen which founded this species, closed her visits to the Sunda Islands by a short stay at Celebes about the year 1853. It has been well said of this accomplished traveller :—"If we compare the results of Ida Pfeiffer's undertakings with the limited means at her disposal for carrying out her plans, her achievements appear marvellous. She traversed nearly 150,000 miles by sea and 20,000 miles by land; and the funds for these travels were obtained entirely by wise economy and by the energy with which she kept the goal continually before her eyes."

f. *Body much elongated.*

43. Cosmopsaltria albostriata. (Tab. VIII., fig. 1, *a*, *b*.)

Cosmopsaltria albostriata, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. ii. p. 321 (1888).

♂. Head and thorax above ochraceous; head with the anterior margin of front, the area of the ocelli, a small central spot on anterior and posterior margins of pronotum, and a small spot behind each eye, black; mesonotum with two obconical linear basal spots, which have a broken linear fascia on each side, and a spot near apex of each anterior angle of the basal cruciform elevation, black. Abdomen above pale castaneous, with the posterior segmental margins ochraceous, and with two dorsal sublateral white fasciæ extending from base to about two-thirds of the abdominal length. Body beneath and legs ochraceous.

Tegmina and wings pale hyaline, the venation ochraceous, inclining to fuscous; tegmina with the costal membrane ochraceous and the transverse veins at the bases of the second and third apical areas very narrowly infuscated.

The opercula are short and somewhat broad, concave a little beyond base, with their apices broadly rounded and about reaching the apex of the second abdominal segment.

Long. excl. tegm. ♂, 30 millim. Exp. tegm. 80 millim.

Hab.—Malayan Archipelago: Philippine Isles (coll. Dist.).

This species has the elongated and posteriorly attenuated abdomen, so strongly represented in some of the Polynesian and Australian species of the genus, such as *C. distans*, Walk., and *C. stuarti*, Dist.

g. *Opercula not or only slightly constricted on each side at base.*

h. *Opercula long, extending to, or near, apex of abdomen.*

44. Cosmopsaltria chlorogaster. (Tab. VII., fig. 5, *a*, *b*.)

Cicada chlorogaster, Boisduval, Voy. Astrol. ii. p. 614, n. 5; Hèm. t. 10, f. 4 (1832).

Dundubia chlorogaster, Walk. List Hom. i. p. 47, n. 5 (1850).

Cosmopsaltria chlorogaster, Stål, Berl. Ent. Zeit. x. p. 171 (1866).

Dundubia maculosa, Walk. List Hom., Suppl. p. 9 (1858).

Body above ochraceous, with the following black markings, viz.:—head with the margin of front and a broad irregular fascia between the eyes; pronotum with two central longitudinal linear fasciæ, expanded and united posteriorly, and a short linear fascia near each lateral margin; mesonotum with a central longitudinal fascia, with a shorter and inwardly curved one on each side, followed by a subobsolete obconical spot and a spot in front of each anterior angle of the basal cruciform elevation; abdomen with transverse segmental fasciæ and a spot at each lateral margin of the second segment. Body beneath, legs and opercula ochraceous, apices of the tibiæ, and the tarsi blackish; a black fascia between eyes crossing the anterior margin of face.

Tegmina and wings pale hyaline; tegmina with the costal membrane ochraceous, and with the transverse veins at the bases of the second and third apical areas, infuscated.

Opercula reaching the apex of the abdomen, broad, with their apices obtusely rounded.

Long. excl. tegm. ♂, 26 millim. Exp. tegm. 85 millim.

Hab.—Malayan Archipelago: Celebes (Pfeiffer—Brit. Mus.); Menado (Bruijn—Genoa Mus.). Santa Cruz Islands: Vanikoro (Voy. Astrol.).

There can be little doubt that though this species is shown to have such an extended range, it will ultimately be proved to have a more connected and continuous distribution than the above recorded habitats would imply. There can be no question about its presence in

Celebes, and we may confidently expect it to be received from New Guinea when further collections of *Cicadidæ* are made in that island.

45. **Cosmopsaltria gemina.** (Tab. VII., fig. 3, *a*, *b*).

Cosmopsaltria gemina, Distant, Ann. Mus. Civ. Genoa, ser. 2 a, vol. vi. p. 522 (1888).

Allied to *C. chlorogaster*, Boisd., but differing by the longer and more brownish-olivaceous body; the vertex of the head with an anterior transverse black fascia enclosing ocelli, the front more produced anteriorly, the tegmina with the transverse veins at the bases of the second, third and fifth apical areas infuscated, the opercula relatively shorter to the length of the body, about reaching the base of the anal segment and more concavely sinuate on the outer margins.

Long. excl. tegm. ♂, 30 millim. Exp. tegm. 94 millim.

Hab.—Malayan Peninsula: Celebes, Gorontalo (Rosenberg—Leyden Mus.); Goram (D'Albertis—Genoa Mus.).

hh. *Opercula not extending to or near apex of abdomen.*

46. **Cosmopsaltria recedens.** (Tab. X., fig. 14, *a*, *b*.)

Dundubia recedens, Walker, Journ. Linn. Soc., Zool. vol. x. p. 85, n. 11 (1867).

This is another of those species only known to the writer by the typical specimen in the British Museum.

"*Male.* Testaceous, slightly tinged with green. Head black about the ocelli; a transverse black dot on each side in front; face with a short black middle stripe and with transverse black streaks along each side. Prothorax with two black lines, which diverge from each other towards the fore border and towards the hind border; a black curved streak on each side in the disk; sutures black. Mesothorax black; four stripes and hind part testaceous. Abdomen black; hind borders of the segments more or less tawny; underside white at the tip. Ventral opercula green, about two-thirds of the length of the abdomen. Femora and fore tibiæ striped with black; anterior tarsi black. Wings pellucid; veins black, testaceous or green towards the base; stigma pale testaceous; first and second transverse veins clouded with blackish."

"Length of the body 11 lines; of the wings 34 lines."

Hab.—Malayan Archipelago: New Guinea: (Wallace—Brit. Mus.).

47. **Cosmopsaltria junctivitta.** (Tab. X., fig. 2, *a*, *b*.)

Dundubia junctivitta, Walker, Journ. Linn. Soc., Zool. vol. x. p. 89, n. 16 (1867).

"*Male.* Testaceous. Head with a broad transverse black line, which is broadest about the ocelli; a black angular line on the front; face with a middle black line, which is abbreviated towards the front, and with black transverse streaks along each side. Prothorax with two black lines, which diverge from each other, and are dilated towards the fore border and towards the hind border; a piceous lunule on each side in the disk; a piceous stripe on each side; sutures mostly black. Mesothorax black; two testaceous stripes, each of which is narrow and lanceolate in front and contains a black spot near its hind end; hind part testaceous, with a black mark on each side. Abdomen with shining cinereous tomentum, and with five lines of piceous spots; middle spot at the base black, large, lanceolate. Ventral opercula about two-thirds the length of the abdomen. Tibiæ piceous towards the tips; tarsi piceous. Wings pellucid; veins ochraceous, partly black; an elongated blackish dot on the first transverse vein, and another on the second; a very small elongated blackish dot on each of the seven marginal veins."

"Length of the body 12 lines; of the wings 40 lines."

Hab.—Malayan Archipelago: Ternate (Wallace—Brit. Mus.).

48. Cosmopsaltria obtecta. (Tab. V., fig. 13, *a*, *b*.)

Tettigonia obtecta, Fabricius, Syst. Rhyng. p. 35, n. 11 (1803).
Cicada obtecta, Germ. in Thon. Ent. Arch. ii. 2, p. 5, n. 58 (1830).
Cosmopsaltria obtecta, Stål, Berl. Ent. Zeits. x. p. 171 (1866); Hem. Fabr. ii. p. 4, n. 1 (1869).
C. (Dicropyga) obtecta, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 708, *note*.
Dundubia bicaudata, Walk. List Hom., Suppl. p. 9 (1858).
Cosmopsaltria bicaudata, Stål, Berl. Ent. Zeits. x. p. 171 (1866).
C. (Dicropyga) bicaudata, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 708, *note*.
Dundubia subapicalis, Walk. Journ. Linn. Soc., Zool. x. p. 87, n. 15 (1867).

Head, pronotum, mesonotum, and tympanal coverings greenish-ochraceous. Abdomen above ochraceous. Head with the anterior margins of front, a narrow undulating fascia between eyes, a submarginal stripe to vertex, and a spot at anterior angles of vertex, black; eyes fuscous. Pronotum with two central longitudinal fasciæ—united posteriorly—on each side of these a discal linear spot, and the furrows, and a curved spot on lateral margins, black. Mesonotum with a central longitudinal fascia, which has on each side a shorter fascia connected at about centre, a submarginal linear fascia and a spot at anterior angles of basal cruciform elevation black. Abdomen with a basal and some more obscure discal blackish spots. Head beneath, sternum, legs and opercula greenish-ochraceous, abdomen beneath ochraceous; some lateral spots to face, a spot between face and eyes, a spot on each side of apex of face, longitudinal streaks to femora, subapical annulations to tibiæ, the tarsi and apex of rostrum dark fuscous.

Tegmina and wings pale hyaline, the venation alternately brownish and ochraceous; tegmina with the costal membrane ochraceous, transverse veins at the bases of the second, third, fifth, and seventh apical areas infuscated, the fifth and seventh only slightly infuscated, and a series of small marginal fuscous spots situate on the apices of the longitudinal veins to apical areas.

The opercula are well separated with their outer margins nearly straight.

Long. excl. tegm. ♂, 24 to 26 millim. Exp. tegm. 82 to 85 millim.

Hab.—Malayan Archipelago: Amboina (Forbes—coll. Dist.); Ceram (Pfeiffer and Wallace—Brit. Mus.); Batchian (Wallace—Brit. Mus.); Ternate (Wallace—Brit. Mus.; V. Lansberg—Leyden Mus.; Beccari—Genoa Mus.); Gilolo (Wallace—Brit. Mus; Beccari—Genoa Mus.); Aru (Wallace—Brit. Mus.; Beccari—Genoa Mus.). New Guinea: Salwatty (Genoa Mus.); South-East District (coll. Dist.). Duke of York Island (coll. Dist.).

The proper identification of this species has hitherto been much obscured, owing to Walker having erroneously catalogued it as representing an Indian species, *C. saturata*, Walk. (*antea*, p. 54), and Mr. Atkinson, thus misled, refers to *C. obtecta*, in his excellent Catalogue, as from Sikkim and Assam.*

I am indebted to the kindness of Prof. K. Brandt, of the Kiel Museum, for an examination of a typical specimen of Fabricius's species.

49. Cosmopsaltria pigafettæ. (Tab. VIII., fig. 10, *a*, *b*.)

Cosmopsaltria pigafettæ, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 371 (1888).

Body above brownish ochraceous; head with the whole frontal margin and a transverse fascia between the eyes black. Pronotum with two central, longitudinal, linear fasciæ, on each side of which are two or three oblique, short, linear spots, and a broader fascia on each lateral margin black. Mesonotum with five linear fasciæ; the central crossing disk, on each side of this a shorter and curved fascia, and a broken fascia on each lateral area, black. Abdomen pilose, with some black spots at base. Body

* J. A. S. Beng. vol. liii. p. 226 (1885).

beneath brownish ochraceous; face with a central black fascia, not reaching anterior margin, and a transverse series of black linear spots on each lateral margin; some scattered spots on head, apex of the rostrum, some femoral streaks, the tarsi, and a transverse fascia at base of abdomen, black. Wings pale hyaline, the venation greenish or fuscous, the first with a small ochraceous costal spot at base of upper ulnar area, the transverse veins at bases of second, third, fifth, and seventh apical areas infuscated, and a marginal series of small fuscous spots, situate on the apices of the longitudinal veins to apical areas.

The rostrum reaches the posterior coxæ; the opercula are ovate and extend to the third abdominal segment.

Long. excl. tegm. ♂, 26 millim. Exp. tegm. 84 millim.

Hab.—Malayan Archipelago: Ternate (coll. Dist.); Bouro (Brussels Mus.).

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50. Cosmopsaltria phæophila. (Tab. XII., fig. 21, *a*, *b*.)

Dundubia phæophila, Walker, List Hom. i. p. 52, n. 12 (1850).

I have only been able to examine a female specimen of this species, so am unable to locate it sectionally in the genus. The following is Walker's description:—

"Body brownish-tawny; head a little narrower than the fore-chest; black about the eyelets, adorned with two black spots on each side; face very convex, adorned with black bands on each side; mouth tawny with a black tip, reaching the hind-hips: feelers black: eyes prominent; fore-chest broadest near the base of the fore-wings; scutcheon adorned with two black stripes; hind-scutcheon tawny, slightly widened and rounded near the base of each fore-wing, not notched but armed with a very small tooth on each side: scutcheon of the middle-chest armed with five black stripes and with two black dots, the latter near the hind border; the outer pair of stripes are in front, the inner pair behind; hind border very slightly excavated; abdomen obconical, a little longer than the chest; opercula tawny, drums tawny, with broad black bands, obconical, very large, slightly concave in the middle of the outer border, extending near to the tip of the abdomen: legs tawny; tips of the claws black; tips of the four hinder-shanks black; fore-thighs armed with three teeth, one very small; spines of the hind-shanks black; fore-feet pitchy: wings tinged with pale brown, which is most prevalent at the tips; first and second cross veins clouded with dark-brown; veins black, tawny towards the base; flaps brown towards the base.

"Length of the body 15 lines; of the wings 46 lines."

Hab.—Malayan Archipelago: Borneo (coll. Dist.). Corea (Belcher—Brit. Mus.).

Genus POMPONIA.

Pomponia, Stål, Hem. Afr. vol. iv. p. 6 (1866).
Subgen. *Pomponia*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 710.
Subgen. *Oncotympana*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 710.

Body variable, either long or very short and convex. Head, including eyes, about equal in width to anterior margin of mesonotum; ocelli much farther apart from eyes than from each other; face convex, slightly prominent above. Pronotum with the lateral margins moderately ampliated and sinuated. Anterior femora distinctly spined. Tympana covered; opercula short and transverse. Tegmina hyaline, with the basal cell longer than broad; apical areas eight; interior ulnar area sometimes widened at apex.

This genus is allied to *Dundubia* and *Cosmopsaltria*, from both of which it is at once distinguished by the short and transverse opercula. It is also divisable, as pointed out by

Stål, into two distinct sections or subgenera, distinguished principally by the shape and length of the abdomen.

The geographical distribution of *Pomponia* is strictly confined to the limits of our fauna.

A. *Abdomen long; tympanal coverings of ordinary development only.*
a. *Tegmina considerably spotted.*

1. Pomponia imperatoria. (Tab. IX., fig. 15, *a*, *b*.)

Cicada imperatoria, Westwood, Arcan. Ent. vol. i. p. 13, t. 51 (1842).
Dundubia imperatoria, Walk. List Hom. i. p. 47, n. 1 (1850).
Pomponia imperatoria, Stål, Berl. Ent. Zeit. x. p. 171 (1866); Atkins. J. A. S. Beng. vol. liii. p. 229, n. 67 (1885).
Cicada adusta, Walk. List Hom. i. p. 102, n. 1 (1850).

Body above brownish-ochraceous, in some specimens castaneous. Head with a central longitudinal spot to front, the area of the ocelli, a transverse spot behind eyes, and a spot at anterior angles of vertex, black. Pronotum with two central longitudinal linear fasciæ not extending beyond centre—a central spot at the posterior margin—and the furrows black; posterior margin greenish, with two black spots on each side. Mesonotum with two obconical central spots, from the junction of which a longitudinal fascia extends to posterior margin, four spots in transverse series at base, a spot on each lateral discal area, and sometimes some small spots at anterior margin black. Abdomen with the posterior margins of the abdominal segments narrowly black. Body beneath and legs brownish-ochraceous; transverse striations and apex of face, anterior tibiæ, bases and apical thirds of intermediate tibiæ, anterior and intermediate tarsi and apex of rostrum, black.

Tegmina and wings pale hyaline, the venation ochraceous. Tegmina with the costal membrane and basal cell brownish or ochraceous, the claval area ochraceous or sanguineous; the transverse veins at the bases of the second, third, fifth, and seventh apical areas infuscated and a series of fuscous marginal spots at the apices of the longitudinal veins to apical areas. Wings with the base of claval area ochraceous or sanguineous; outer margin of claval area ochraceous.

Long. excl. tegm. ♂, 46 to 68 millim.; ♀, 41 to 60 millim. Exp. tegm. ♂, 137 to 180 millim.; ♀, 145 to 216 millim.

Hab.—Malay Peninsula: Province Wellesley (coll. Dist.); Perak (Townsend & Doherty—coll. Dist.). Java (Argent—Brit. Mus.). Borneo: Pontianak (Bruss. Mus.); Sarawak (Genoa Mus.); Sandakan (Pryer—coll. Dist.); Kina Balu Mt. (Whitehead—coll. Dist.).

This is a most variable species, both as regards size and markings. The largest specimen I have yet seen is a female in my own collection from Perak, whose tegmina reach an expansion of 216 millim. In some of the smaller specimens the body is darker, and the markings to same and the spotting of the tegmina very indistinct. There almost seem to be two races of this species, one very much smaller and somewhat less prominently marked than the other.

As I have elsewhere recorded, I captured this fine species myself, not unfrequently, when sojourning in the Malay Peninsula. It often frequented the dining-room, and on holding it between the fingers its stridulation caused a thrill through the nerves of the arm.*

* It is probably this species described by Mr. Helms in Borneo:—"A green creature, with transparent wings a couple of inches long, sent forth piercing sounds which may be heard a mile away. It begins with a strong trumpet-note, which has been likened to the sharpening of a steel knife on a grindstone, but infinitely more penetrating. This note is very prolonged, and is followed rapidly by others, gradually getting fainter, at last dying away, when it begins anew with the first note, and so continues, filling the stillness of the night with its noisy trumpeting."—L. V. Helms, 'Pioneering in the Far East,' p. 141-2.

2. Pomponia fusca. (Tab. VII., fig. 10, *a*, *b*.)

Cicada fusca, Oliv. Enc. Méth. v. p. 749, n. 14, t. 111, f. 3 (1790).
Dundubia fusca, Walk. List Hom. i. p. 64, n. 26 (1850).
Pomponia fusca, Stål, Berl. Ent. Zeit. x. p. 171 (1866); Öfv. Vet.-Ak. Förh. 1870, p. 710, n. 1.
Dundubia linearis, Walk. List Hom. i. p. 48, n. 8 (1850); Stål, Öfv. Vet.-Ak. Förh. 1862, p. 480.
Dundubia cinctimanus, Walk. List Hom. i. p. 49, n. 9 (1850).
Dundubia ramifera, Walk. List Hom. i. p. 53, n. 13 (1850).
Dundubia urania, Walk. List Hom. i. p. 64, n. 27 (1850).
Pomponia linearis, Stål, Berl. Ent. Zeit. x. p. 171 (1866); Atkins. J. A. S. Beng. vol. liii. p. 228, n. 62 (1885).
Stoll, Cig. fig. 36.

Head, pronotum, and mesonotum greenish-ochraceous. Head with the anterior margins of front, an irregular central fascia to vertex enclosing the ocelli, a large spot on inner side of eyes, and the anterior lateral angle of vertex, dark olivaceous. Pronotum with a broad central longitudinal fascia, two large oblique spots on each lateral area, and a spot on the lateral margin, brownish-olivaceous. Mesonotum with seven brownish-olivaceous spots; situate two central and obconical, between which is an arrow-shaped discal spot, a small spot on each side of the two central ones, and a long spot on each lateral area, two small spots of the same colour in front of each anterior angle of the basal cruciform elevation. Abdomen pale castaneous with ochraceous pilosity. Head beneath, sternum, legs and opercula pale greenish; upper and apical areas of face, a spot between face and eyes, posterior margins of eyes, anterior tibiæ, apices of intermediate tibiæ, a spot near apices of femora, apices of anterior and intermediate tarsi, apex of rostrum, and a triangular spot between the intermediate and posterior coxæ, dark fuscous. Abdomen beneath dark ochraceous.

Tegmina and wings pale hyaline; tegmina with the costal membrane greenish, transverse veins at the bases of the second, third, fourth, fifth, seventh and eighth apical areas infuscated, and a marginal series of small fuscous spots situate at the apices of the longitudinal veins to apical areas; the venation is otherwise ochraceous, sometimes replaced by black; basal cell and claval margin brownish-ochraceous. Wings with the venation brownish-ochraceous; claval margin darker in hue.

Long. excl. tegm. ♂, 35 to 50 millim. Exp. tegm. 87 to 125 millim.

Hab.—Continental India: Assam, Margherita (Doherty—coll. Dist.); Sylhet (Sowerby & Stainforth—Brit. Mus.); Cachar (Judge—coll. Dist.); Naga Hills and Seebsagar (Calc. Mus.); Neelgiri Hills, North Slopes (Hampson—coll. Dist.). Malay Peninsula: Perak (Calc. Mus.). Java (coll. Sign.). Philippine Isles (Semper—Stockh. Mus.). Japan (Pryer—coll. Dist.).

This is another variable species, both in size and markings, the tegmina in some specimens being much less strongly spotted than in others.

3. Pomponia græcina. (Tab. X., fig. 8, *a*, *b*.)

Pomponia græcina, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. ii. p. 421 (1889).

♀. Allied to *P. fusca*, Oliv., but differing by having the two central fasciæ of the pronotum much more diverted anteriorly, the two central obconical spots on the mesonotum much more contiguous, and all the tegminal macular markings on the transverse veins at bases of apical areas and at the apices of the longitudinal veins of the apical areas larger and more infuscated. The female rudimentary opercula, as compared with those of the same sex of *P. fusca*, are convex and rounded externally and not moderately angulated.

Long. excl. tegm. ♀, 31 millim. Exp. tegm. 110 millim.

Hab.—Malayan Archipelago: Borneo, Kina Balu Mt. (Whitehead—coll. Dist.).

4. Pomponia lactea. (Tab. VII., fig. 18, *a*, *b*.)

Leptopsaltria lactea, Distant, Ann. & Mag. Nat. Hist. ser. 5, vol. xx. p. 229 (1887).

Head and pronotum ochraceous; head with the front, the area of the ocelli, and a transverse streak in front of eyes reddish-ochraceous. Pronotum with the whole disk reddish ochraceous, with an indistinct, central, longitudinal fascia, on each side of which are two oblique excavated lines; the margins pale ochraceous. Mesonotum obscure ochraceous, with two obscure and mostly castaneous, central, obconical spots, on each side of which is a curved broken fascia of the same colour, and a large spot in front of the cruciform basal elevation. Abdomen above ochraceous, with a broad, central, castaneous fascia, which is notched and channelled outwardly; stigmata also castaneous. Body beneath and legs ochraceous; apices of the femora, bases and apices of the tibiæ, the tarsi, a spot on apical segment of abdomen, and apex of the rostrum, castaneous.

Tegmina and wings pale hyaline, with a strong milky-white suffusion or reflexion. Tegmina with the veins alternately ochraceous and castaneous; the costal membrane and a small costal spot at base of upper ulnar area ochraceous; transverse veins at bases of apical areas more or less infuscated, and a marginal row of pale fuscous spots placed on the apices of the veins. Wings with the venation dark castaneous and unspotted.

Long. excl. tegm. ♂, 30 millim. Exp. tegm. 80 millim.

Hab.—Malay Peninsula: Perak (Doherty—coll. Dist.). Malayan Archipelago: Sumatra (Forbes—coll. Dist.).

The body is long and gradually tapering towards apex; the lateral margins of the pronotum are concavely sinuate, not angulated. The face is broad and tumid, the central sulcation small and only distinct on apical half; the transverse ridges prominent. The rostrum extends a little beyond posterior coxæ. The opercula are small, only reaching the basal segment of the abdomen; they are outwardly oblique, broadly convex at apices, and again obliquely directed inwardly and upwardly.

5. Pomponia picta. (Tab. VII., fig. 11, *a*, *b*.)

Dundubia picta, Walker, Journ. Linn. Soc., Zool. vol. x. p. 90, n. 17 (1867).

"*Female.* Ferruginous. Head blackish about the eyes; two irregular green stripes; a green stripe in front, interrupted on the face, which is piceous and has transverse tawny streaks along each side. Prothorax with a very broad green stripe, which is contracted in the middle, and contains two black stripes; these stripes are contracted near the fore border and near the hind border, where they are much dilated; an oblique irregular green stripe on each side; postscutellum green. Mesothorax with a blackish dot on each side on the fore border, between two green streaks; two green patches on the hind border. Abdomen with four piceous stripes, of which the inner pair are very broad. Ventral opercula green. Legs green; fore femora and posterior tibiæ with piceous bands; middle femora striped with piceous; posterior tibiæ piceous at each end; anterior tarsi piceous. Wings pellucid; a zigzag oblique dark-brown streak, which includes the first, second, and third transverse veins; fourth and fifth transverse veins clouded with dark brown, as are also the veins at the base of the sixth marginal areolet; a dark brown dot on each side of the third discoidal areolet; an elongated brown dot on each of the marginal veins; veins black, with pale green bands; costa pale green."

"Length of the body 17 lines, of the wings 40 lines."

Hab.—Malayan Archipelago: Sumatra (Wallace—Brit. Mus.; Beccari—Genoa Mus.; Ludeking—Leyden Mus.).

6. Pomponia singularis. (Tab. VI., fig. 4, *a*, *b*.)

Dundubia singularis, Walker, List Hom., Suppl. p. 7 (1858); Atkins. J. A. S. Beng. vol. liii. p. 225, n. 48 (1885).

"*Male*. Testaceous, slender, partly green, very pale beneath. Head black between the ocelli, and with a black dot on each side in front. Prothorax with two black dots by the border, which is narrow behind, but much dilated on the hind part of each side; the latter is notched in the middle. Mesothorax with an oblique green stripe on each side. Abdomen with four rows of triangular brown spots. Opercula small. Wings vitreous, with testaceous streaks between the transverse marginal veinlets and the border; veins green or testaceous. Fore wings narrow, with the transverse veins and the forks of the longitudinal veins clouded with testaceous; a testaceous spot at the tip of each marginal vein communicating with a slight testaceous streak on each marginal areolet; a testaceous dot on the hind side of the third discoidal areolet, with distinct indications of two transverse veins, the one joining the fifth transverse vein, the other ending on the front areolet near the base of the second discoidal areolet; a few minute testaceous dots on some of the marginal and discoidal veins; first transverse vein straight, very oblique, but not in the usual direction, parted by much more than its length from the second, which is much curved and almost upright; third and fourth oblique, slightly curved; third a little shorter than the fourth."

"Length of the body 9 lines; of the wings 30 lines."

Hab.—Continental India: Hindostan (*sic*) (Stevens—Brit. Mus.); Darjeeling (Stockh. Mus.).

7. Pomponia ransonetti. (Tab. VII., fig. 20, *a*, *b*.)

Pomponia ransonetti, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 372 (1888).

Head and thorax above ochraceous; head with two converging black lines in front, and the anterior area of vertex (enclosing ocelli), the hinder margin of eyes, and a small spot at same region, black. Pronotum with a broad, central, double, longitudinal fascia, on each side of which are two curved linear spots and a large oblique, semioval, linear spot on each lateral area, black. Mesonotum with a central longitudinal fascia broadening at base into a large crescentic spot in front of basal cruciform elevation; on each side of this fascia, starting from anterior margin, is a short curved fascia followed by a spot and again by a long, broad, and slightly curved fascia and a small oblique spot on each lateral margin black. Anterior angles of basal cruciform elevation black. Abdomen above brownish-ochraceous and pilose, the segmental margins narrowly piceous. Head beneath, sternum, and legs ochraceous; an oval fascia on face, a transverse spot on each side, posterior margin of head, a transverse spot on mesosternum, apices of the femora, and bases of the tibiæ, black. Abdomen beneath brownish-ochraceous, its base and apex piceous.

Tegmina and wings pale hyaline, with a pale creamy bluish reflexion, venation castaneous or fuscous; tegmina with a small ochraceous costal spot at base of upper ulnar area, transverse veins at bases of second, third, fifth, and seventh apical areas infuscated, and a marginal series of fuscous spots situated on the apices of the longitudinal veins to apical areas.

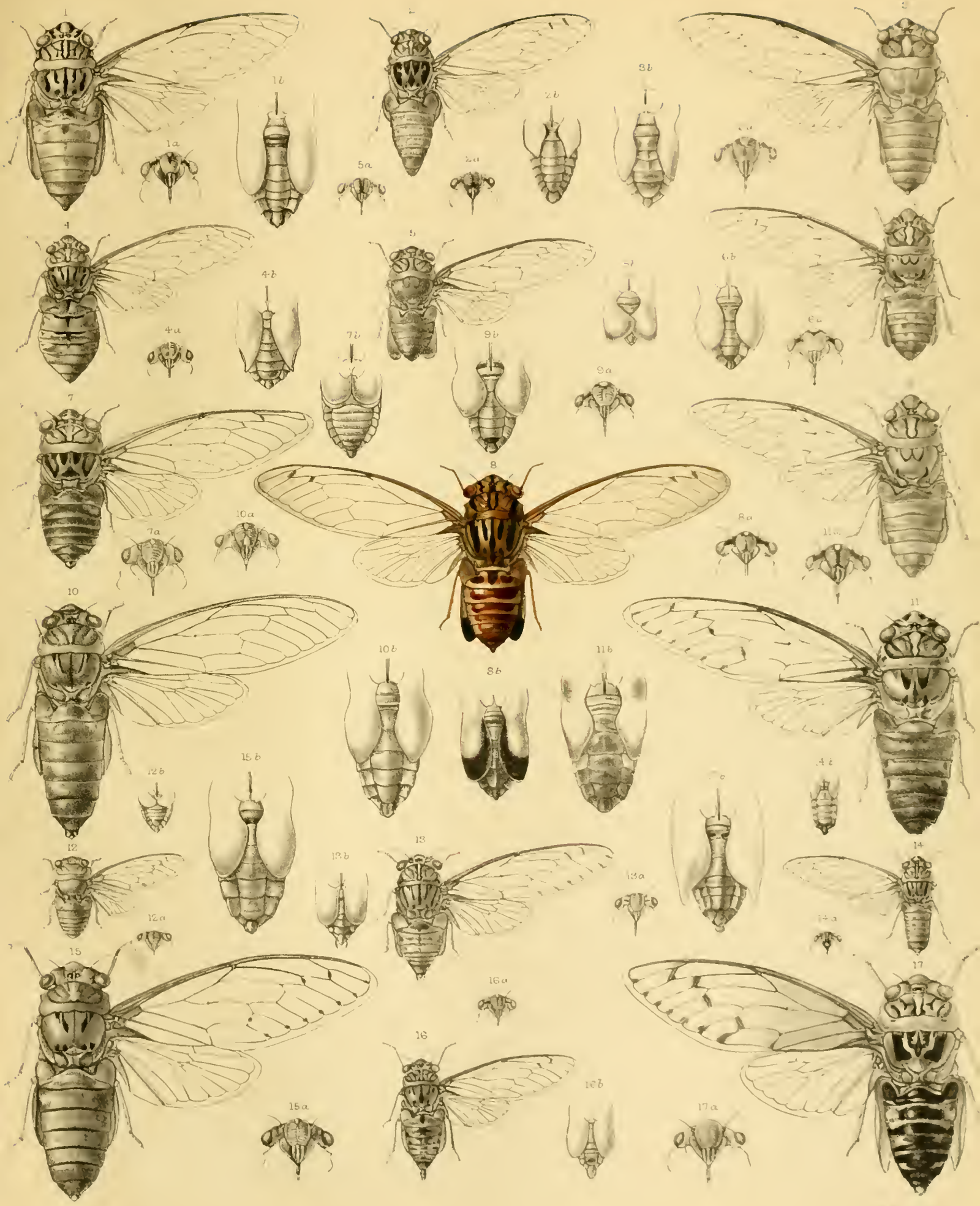
The rostrum reaches the posterior coxæ; the opercula are small and widely separated.

Long. excl. tegm. ♂, 22 millim. Exp. tegm. 95 millim.

Hab.—Ceylon: Colombo (Calc. Mus.).

8. Pomponia evanescens. (Tab. X., fig. 13, *a*, *b*.)

Dundubia evanescens, Walker, Ins. Saund., Hom. p. 6 (1858).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16a
16b

"*Male*. Pale testaceous, slender. Head with a black band, and with the usual black marks in front. Prothorax with two approximate black stripes, and with two black spots on each side. Mesothorax with nine black stripes, which are more or less abbreviated hindward, where there are two black dots. Abdomen with six stripes of black spots; the second pair of stripes incomplete. Opercula nearly half the length of the abdomen."

"Wings quite vitreous; veins pale testaceous. Fore wings with the marginal veins clouded by brown stripes, which successively decrease in length; first and second transverse veins clouded with brown, very oblique; first much longer than the second, from which it is parted by much more than twice its length; third and fourth transverse veinlets oppositely oblique, slightly curved or undulating. Hind wings very slightly clouded with brown along the transverse marginal veinlets."

"Length of the body 10—11 lines; of the wings 24—26 lines."

Hab.—Continental India (Brit. Mus.).

This species is only known to the writer by the typical specimen contained in the collection of the British Museum. That specimen is here figured, and Walker's original description is reproduced. The only locality recorded is simply "Hindostan."

9. Pomponia pumila, n. sp. (Tab. XIII., fig. 8, *a*, *b*.)

♂. Body above brownish-ochraceous. Head with a spot on each side of front, some linear marks at area of ocelli, an inner fascia to eyes, and a marginal spot near base of front, blackish. Pronotum with two central longitudinal fasciæ and the incisures blackish. Mesonotum with a central longitudinal fascia, on each side of which is a short oblique fascia on disk, a submarginal fascia, and a spot in front of the anterior angles of the basal cruciform elevation, blackish. Abdomen with the marginal incisures and the margins of the tympanal coverings blackish. Body beneath ochraceous; apex of face, margins, and some discal spots to sternum, base and apex of abdomen, and a large spot on outer basal margins of opercula, blackish.

Tegmina and wings pale hyaline, the venation ochraceous. Tegmina with the transverse veins at the bases of the first, second and third apical areas obscurely infuscated and with a pale, waved, fuscous outer submarginal fascia.

The abdomen is robust and somewhat compressed above: the opercula are small, wide apart: the face is centrally and longitudinally raised and levigate, the lateral transverse striations being very profound.

Long. excl. tegm. 15 millim. Exp. tegm. 41 millim.

Hab.—Malayan Archipelago: Borneo; Elopura (Pryer—coll. Dist.).

A single specimen of this small species was captured by my friend Mr. W. B. Pryer in March, 1884, and has thus remained some years undescribed. It is the smallest species of the genus with which I am acquainted.

aa. *Tegmina with the transverse veins at bases of second and third apical areas, and the apex, infuscated.*

10. Pomponia viridimaculata. (Tab. X., fig. 9, *a*, *b*.)

Pomponia viridimaculata, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 421 (1889).

♂. Body above castaneous; ocelli, eyes, and posterior margin of pronotum ochraceous; mesonotum very dark castaneous, with two obscure contiguous obconical spots at anterior margin; face, anterior margins of head beneath, and legs, blackish; apices of the femora ochraceous; posterior tibiæ castaneous, their bases and apices blackish.

Tegmina and wings pale hyaline, the venation brownish ochraceous; tegmina with the costal membrane pale castaneous, the transverse veins at the bases of the second and third apical areas, and the apex of the longitudinal vein defining the upper apical area, broadly and darkly infuscated, and a distinct

bright green basal streak; wings with the inner claval margin green, with a fuscous streak, the outer claval margin fuscous.

Body elongate, the face very robust and rounded; the rostrum reaching the posterior coxæ; opercula short, obliquely rounded outwardly, obliquely straight inwardly.

Long. excl. tegm. ♂, 52 to 55 millim. Exp. tegm. 135 millim.

Hab.—Malayan Archipelago: Borneo, Kina Balu Mt.* (Whitehead—coll. Dist.).

aaa. *Tegmina with only the transverse veins at bases of second and third apical areas infuscated.*

11. Pomponia scitula. (Tab. VII., fig. 19, *a*, *b*.)

Pomponia scitula, Distant, Ann. Mus. Civ. Genoa, ser. 2*a*, vol. vi. p. 456 (1888).

♂. Head and pronotum ochraceous or olivaceous. Head with the striations to front and a spot at base of same; inner margins of eyes, lateral margins of vertex and area of the ocelli black. Pronotum with two central sinuated longitudinal linear fasciæ, two oblique linear fasciæ on each lateral area, and the lateral margins and edges of posterior margin black. Mesonotum with five longitudinal black fasciæ, the central crossing disk, on each side of which is a shorter one and a broad one on each lateral area; between the two outermost on each side is a short black spot, and a spot of the same colour is situate in front of each anterior angle of the basal cruciform elevation. Abdomen above blackish, the posterior segmental margins and a short basal lateral fascia on each side ochraceous. Head beneath, sternum, legs, and opercula ochraceous. Abdomen beneath brownish-ochraceous, the base narrowly and the apex broadly blackish. Inner area of eyes beneath and the striations to face blackish.

Tegmina and wings pale hyaline; the first with the costal membrane and basal area of venation ochraceous, remaining venation fuscous, and the transverse veins at the bases of the second and third apical areas infuscated; venation of wings as in tegmina, ochraceous at base and beyond fuscous.

The rostrum about reaches the posterior coxæ; the opercula are small, wide apart and obtusely angulated, and the face is robust and tumid.

Long. excl. tegm. ♂, 22 millim. Exp. tegm. 65 millim.

Hab.—Continental India: Upper Assam, Margherita (Doherty—coll. Dist.). Burma: Teinzò (Fea—Genoa Mus.). Tenasserim: Meetan (Fea—Genoa Mus.).

12. Pomponia solitaria. (Tab. VII., fig. 17, *a*, *b*.)

Pomponia solitaria, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 295 (1888).

♂. Body above ochraceous. Head with the eyes dark fuscous; front with two central black spots on anterior margin and two small rounded black spots at base; vertex with the area of the ocelli—which are red—a curved line before each eye, and a spot near each anterior lateral angle, black. Pronotum with two central black lines, united at base, and a black spot on each lateral margin. Mesonotum with the following black markings:—*viz.* three central lines, the central one extending across disk, followed by a shorter line on each side, and again by an irregular line which reaches nearly across disk, and a black spot in front of each anterior angle of basal cruciform elevation.

Tegmina and wings pale hyaline, the first with the costal membrane and venation ochraceous, the transverse veins at bases of second and third apical areas infuscated; venation of wings generally ochraceous.

The rostrum reaches the apices of the posterior coxæ; the opercula are small, not reaching the apex of the basal segment of the abdomen.

Long. excl. tegm. ♂, 28 millim. Exp. tegm. 75 millim.

Hab.—Narkondam Island (Calc. Mus.).

* Kina Balu Mountain is, judging from Mr. Whitehead's collections, a prolific entomological locality, and particularly rich in Homoptera. I have already remarked on the large number of "lantern flies"—*Fulgoridæ*—found on this limited area (Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 419). These eastern insular mountains have generally a great wealth in insect-life, as has been pointed out by Mr. Moseley on the summits of the volcanoes of Gunong Api in Banda, and on the one belonging to Ternate (A Naturalist on the 'Challenger,' p. 384), and by Mr. Hickson on the Ruang Volcano in the Celebesian group of islands (A Naturalist in Celebes, p. 46).

This species was probably secured by the Hume Expedition of 1873, which visited this little-known island on the return from the Andaman and Nicobar Islands, and of which a good account has been given by Mr. V. Ball.*

13. Pomponia promiscua. (Tab. IX., fig. 14, *a*, *b*.)

Pomponia promiscua, Distant, Ann. & Mag. Nat. Hist. ser. 5, vol. xx. p. 230 (1887).

♂. Body above greenish-ochraceous. Head with two small fuscous spots at apex of front and two wider apart at base of front, the ocelli also surrounded with fuscous; the head is mottled with very pale ochraceous, and the eyes are dark castaneous. Pronotum with the margins pale ochraceous, an indistinct central fascia margined with ochraceous, with an obscure castaneous spot on each side, and four oblique incisions on disk, two on each side of central fascia. Mesonotum with two obscure central obconical spots margined with greenish, the lateral margins and the basal cruciform elevation of the same colour. Abdomen with the stigmata and the segmental margins castaneous. Body beneath ochraceous; apex of the rostrum, basal and apical annulations to tibiæ, apices of the tarsi, and penultimate abdominal segment castaneous.

Tegmina pale hyaline, with talc-like reflexions; venation alternately ochraceous and fuscous; costal membrane and a small costal spot at base of upper ulnar area ochraceous, basal claval area greyish opaque; transverse veins at bases of second and third apical areas slightly infuscated. Wings as tegmina, but unspotted.

The body is moderately robust; the abdomen broad, narrowed at apex. The lateral margins of the pronotum are slightly sinuated. The face is broad and tumid, with a central and very obscure levigate carina, but not sulcated; transverse ridges not extending to apex. Rostrum just passing the posterior coxæ. Opercula small, obliquely rounded, not reaching the basal segment of the abdomen.

Long. excl. tegm. ♂, 25 millim. Exp. tegm. 65 millim.

Hab.—Malayan Archipelago: Sumatra (Forbes—coll. Dist.). Engano† (Doherty—coll. Dist.).

This species was originally obtained by Mr. Forbes during his natural-history expedition to Sumatra, and the date of its capture was indicated as the month of March. It is probable that the colour is, or often is, green, and not ochraceous, during life.

14. Pomponia thalia. (Tab. IX., fig. 4, *a*, *b*).

Dundubia thalia, Walker, List Hom. i. p. 72, n. 34 (1850).

Pomponia thalia, Stål, Berl. Ent. Zeit. x. p. 171 (1866).

Body above ochraceous; head, pronotum, and mesonotum greenish-ochraceous. Head with some linear streaks on each side of front, the area of the ocelli with a curved linear streak on each side and the inner margins of eyes, black. Pronotum with two central longitudinal black linear fasciæ, united anteriorly and posteriorly, ampliated and angulated near anterior margin, and compressed and attenuated towards posterior margin, the lateral incisures also black. Mesonotum with seven linear black fasciæ, the central longest and straight, with a short and inwardly curved one on each side, again followed by a longer and posteriorly outwardly curved fascia, beyond which is a submarginal fascia (these last were very faint in the specimen figured), and a black spot at apices of each anterior angle of the basal cruciform elevation. Abdomen with a faint, obsolete, central fascia, which is only clearly visible on the two basal segments. Body beneath and legs pale ochraceous, with the following black markings:—face with a central longitudinal fascia, a transverse line between eyes and face, and the bases of the posterior tibiæ.

Tegmina and wings pale hyaline, the venation ochraceous and fuscous. Tegmina with an ochraceous and black spot at inner angle of upper ulnar area, and with the transverse veins at bases of second and third apical areas infuscated.

* 'Jungle Life in India,' pp. 403—406.

† An island off the western coast of Sumatra.

The face is tumid and transversely striated; the rostrum extends to the posterior coxæ; the opercula are short, but widely separated, with their posterior margins moderately convex.

Long. excl. tegm. ♂, 23 millim. Exp. tegm. 61 millim.

Hab.—Continental India: Sikkim (coll. Dist.); Darjeeling (Stockh. Mus.).

This species appears to be confined to Continental India. The typical specimens in the British Museum are unlocalised.

15. Pomponia translucida, n. sp. (Tab. XIII., fig. 7, *a*, *b*.)

♂. Head, pronotum, and mesonotum ochraceous; eyes fuscous, ocelli shining ochraceous. Abdomen above pale greenish, the disk infuscated; beneath talc-like with a very pale greenish tinge, and with the segmental margins fuscous. Head beneath, sternum, and legs ochraceous. Rostrum with the apex black.

Tegmina and wings pale hyaline, the venation ochraceous. Tegmina with the transverse veins at the bases of the second and third apical areas infuscated.

The body is moderately robust, the abdomen narrowed and constricted posteriorly. The rostrum extends to the posterior coxæ. The opercula are small, well divided, outwardly oblique, and slightly sinuate, their apices moderately convex.

Long. excl. tegm. ♂, 28 millim. Exp. tegm. 70 millim.

Hab.—Malayan Archipelago: Sulu Islands; Jolo (coll. Dist.).

The colour markings of this species alone render its determination easy. The absence of black markings to the pronotum and mesonotum, the talc-like appearance of the abdomen beneath, and the greenish base of the abdomen above in contrast with the ochraceous anterior portion of the body, apart from structural peculiarities, afford good specific characters.

16. Pomponia bindusara. (Tab. IX., fig. 11, *a*, *b*.)

Pomponia bindusara, Distant, Trans. Ent. Soc. 1881, p. 642; Ann. Mus. Civ. Genoa, ser. 2*a*, vol. vi. p. 456 (1888); Atkins, J. A. S. Beng. vol. liii. p. 228, n. 63 (1885).

♂. Body above pale ochraceous; head with lateral margins of front bordered with black striæ, and with two contiguous black spots on disk; two oblique striæ on lateral margins of vertex, and area of ocelli black. Pronotum with two central longitudinal fasciæ, narrowed, joined, and rounded on posterior margin, widely divergent and terminating on anterior margin, a small curved fascia on each side of disk, and oblique striæ also black. Mesonotum with a central fascia, a shorter and more oblique one on each side, followed by an elongate spot on anterior margin, and a long, somewhat broken, submarginal fascia, black: two rounded spots in front of cruciform elevation, and two smaller ones on anterior branches of the same, also black. Abdomen somewhat thickly covered with pale pubescence, with a series of discal segmental markings, two large spots near lateral margins of third and fourth segments, and a lateral segmental row of small spots, black. Underside of body pale ochraceous. Apical disk of abdomen black.

Tegmina and wings pale hyaline; transverse veins at bases of second and third apical areas, slightly infuscated.

Face convex. Apical two-thirds with a narrow central sulcation, transversely striated, the striæ black near centre. Rostrum slightly passing posterior coxæ, its apex black. Opercula small; posterior margins obtusely angulated, and reaching base of first abdominal segment, widened and obtusely angulated, but not meeting inwardly. Posterior tibiæ with three inner and two outer marginal spines. Anterior femora with two long and prominent spines.

Long. excl. tegm. ♂, 30 millim. Exp. tegm. 87 millim.

Hab.—Burma (Calc. Mus.); Teinzò (Fea—Genoa Mus.). Upper Tenasserim (coll. Dist.).

b. *Tegmina clear and unspotted.*

17. Pomponia dohertyi, n. sp. (Tab. XIII., fig. 9, *a*, *b*.)

Head, pronotum and mesonotum dark ochraceous; abdomen pale castaneous. Head with the eyes fuscous, the area of the ocelli and anterior margins of vertex infuscated. Pronotum with a subobsolete central fascia, with a dark spot at base and apex, a short discal fuscous streak on each side; the furrows and outer margins also infuscated. Mesonotum with two small central obconical spots, and some subobsolete fasciæ on each side, and with two small blackish spots situate near the anterior angles of the basal cruciform elevation, the centre of which is dark fuscous. Body beneath and legs dark ochraceous; apex of rostrum and tarsal claws fuscous; apical area of abdomen castaneous.

Tegmina and wings pale hyaline and unspotted, with a slight bronzy tinge; the venation dark ochraceous.

The body is somewhat elongate; the opercula tumid, convexly rounded and well separated; rostrum not quite reaching the posterior coxæ.

Long. excl. tegm. ♂, 27 millim. Exp. tegm. 75 millim.

Hab.—Continental India: Upper Assam; Margherita (Doherty—coll. Dist.).

I have named this species after its discoverer, Mr. Wm. Doherty, to whom we are indebted for the knowledge of many hitherto unknown *Cicadidæ*.

B. *Abdomen long; tympanal coverings largely developed.*

18. Pomponia nigristigma. (Tab. IX., fig. 7, *a*, *b*.)

Dundubia nigristigma, Walker, List Hom. i. p. 57, n. 17 (1850).

"Body dull tawny; head much narrower than the fore-chest; crown adorned with two black bands, which are arranged in an elliptical form; face convex: mouth tawny with a black tip, reaching the hind-hips; eyes prominent; feelers black; fore-chest broadest near the base of the fore-wings; scutcheon adorned with two black stripes, which are widened in front and with two black reversed C-shaped marks; furrows black; hind-scutcheon narrow in the middle, much widened and slightly angular by the base of each fore-wing, armed with two teeth on each side; scutcheon of the middle-chest adorned with four black stripes and on the hind border with four black dots; middle stripes broad in front, united behind; hind border very slightly excavated; abdomen obconical, much longer than the chest; hind borders of the segments adorned with black bands whose outlines are very irregular; disk beneath and tip black; opercula* dull tawny, large, nearly meeting on the back; drums tawny, small, not extending beyond the base of the abdomen; legs tawny; fore-shanks, fore-feet and tips of the shanks and of the feet black; claws black towards the tips; fore-thighs armed with two rather long black teeth."

"Wings very slightly tinged with brown; veins black, tawny along the fore border, with the exception of the brand, which is black; cross veins clouded with brown; a row of very small brown spots on the tips of the longitudinal veins of the marginal areolets; flaps brown at the base."

"Length of the body 10 lines; of the wings 28 lines."

Hab.—Malayan Archipelago: Philippine Isles (Cuming—Brit. Mus.).

I only know this species by the typical specimen in the British Museum, which is here figured, and Walker's original description (with some irrelevant details omitted) reproduced. *P. nigristigma* represents a distinct section of the genus.

* Tympanal coverings as understood in this Monograph.

C. *Abdomen short and robust; tympanal coverings largely developed.*

19. Pomponia kama. (Tab. VI., fig. 12, *a*, *b*.)

Pomponia kama, Distant, Trans. Ent. Soc. 1881, p. 643; Atkins. J. A. S. Beng. vol. liii. p. 228, n. 65 (1885).

♂. Head, pronotum and mesonotum greenish. Head with the lateral sides of the front black; vertex with two transverse lines on lateral margins, somewhat connected inwardly by a short oblique fascia and area of ocelli, from which proceed two narrow fasciæ to posterior margin, black. Pronotum with a central black clavate fascia, of which the centre is ochraceous, widest and much angulated at anterior margin, narrowest and somewhat acutely pointed on posterior margin; an arcuated narrow fascia on each side of disk; oblique striæ pale fuscous; lateral submarginal striæ black, and an oblique fuscous spot on lateral margins; posterior margin narrowly edged with black. Mesonotum with two large obconical spots margined with black, and a large ∧ fascia in front of anterior angles of basal cruciform elevation. Tympanal coverings pale greenish, fuscous anteriorly, and bright cretaceous white near lateral margins. Abdomen castaneous; lateral margins of basal segment bright cretaceous-white. Body beneath with the head, sternum, and opercula greenish; abdomen castaneous. Legs greenish; apices of tibiæ and tarsi and the tarsal claws black.

Tegmina pale fuscous hyaline; anastomoses and apices of lateral veins at margin broadly infuscated, and a blackish spot near termination of radial vein. Wings pale hyaline.

Face broad and convex, the centre blackish, and with a central longitudinal impression, and transverse striations. Rostrum with the apex black, and just passing posterior coxæ. Opercula very short, not reaching base of first abdominal segment. Abdomen beneath deeply sulcated at lateral margins; the disk somewhat gibbous. Head, including eyes, narrower than base of pronotum, about equal to base of mesonotum.

Long. excl. tegm. ♂, 18 millim. Exp. tegm. 66 millim.

Hab.—Continental India: North India, Darjeeling (coll. Dist.—Calc. Mus.). Malayan Archipelago: Java (coll. Sign.).

20. Pomponia pallidiventris. (Tab. VI., fig. 14, *a*, *b*.)

P. (*Oncotympana*) *pallidiventris*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 710, n. 2, Tab. VIII., fig. 21.

"Pallide olivaceo-flavescens; regione ocellorum, margine imo laterali verticis ad oculos, clypeo dorso apicem versus, vittis duabus angustis valde appropinquatis mediis vittisque indeterminatis tribus lateralibus disci thoracis, vitta media subpercurrente, maculis duabus oblongo-obtriangularibus anticis et vitta laterali prope illas, posterius abbreviata, scutelli, macula media segmentorum dorsalium duorum basalium segmentisque dorsalibus reliquis abdominis, femoribus anticis basin versus et apice, tibiis omnibus basi, anterioribus etiam apice, articulo ultimo tarsorum anteriorum, spina subbasali femorum anticorum apiceque rostri nigricantibus; tegminibus alisque vitreis, venis tegminum ante medium olivaceo-flavescentibus, hic illic nigris, pone medium nigricantibus, vena apicem areolæ basilis terminante nigra."

"♂. Segmento primo abdominis segmento secundo vix latiore, lobis tympana tegentibus olivaceo-virescentibus; operculis transversis, distantibus posterius oblique rotundatis."

"*P. expansæ*, Walk., affinis, minor, capite angustiore, vertice oculis tantum dimidio latiore, fronte a supero visa latiore, jugis angustioribus, segmento basali abdominis maris utrimque minus inflato, ventre olivaceo-flavescente, pictura capitis et ceteris differt. Caput scutello paullo angustius; fronte a supero visa antice apice jugorum fere duplo latiore, obtuse rotundata, ab infero visa modice convexa, supra medium rugis transversis medio interruptis instructa. Thorax limbo postico angusto, marginibus lateralibus antrorsum convergentibus, levissime dilatatis, medio sinuatis, ante sinum in dentem parvum prominulis. Tegmina venis ulnaribus basi paullo distantibus, prima fere in medio inter aream basalem et stigma furcata, area ulnari interiore angustiuscula, apice oblique truncata, marginibus lateralibus parallelis; area apicali octava saltem triplo longiore quam medio latiore, paullo ante medium latissima et hinc anastomosin

quartam emittente. Abdomen capite, thorace scutelloque simul sumtis paullo brevius. Femora antica spinis duabus majusculis et una minuta armata. Latera thoracis interdum fusco-maculata. Anastomoses tres primæ fusco-maculatæ. Margo apicalis segmentorum dorsalium nigrorum abdominis olivaceo-flavescens."

"♂. Long. 18, lat. 7½, exp. tegm. 63 mill."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).

I am indebted to Dr. Aurivillius, of the Stockholm Museum, for the loan of a typical specimen of this species, which is here figured. I have also considered it best to reproduce the careful and exhaustive original description of the late Dr. Stål.

21. Pomponia viridi-cincta.

P. (*Oncotympana*) *viridi-cincta*, Stål, Öfv. Vet.-Akad. Förh. 1870, p. 711, n. 3, Tab. VIII., fig. 22.

Fig. 2. Tegminum of *Pomponia viridi-cincta*.

"Dilute subolivaceo-virescens; vertice ante medium, jugis, margine apicali excepto, fascia subbasali maculaque apicali frontis, fascia basali genarum, loris, basi excepta, lateribus maculaque media clypei, vitta impressionibusque thoracis, maculis tribus a basi ad medium extensis, retrorsum angustatis, maculisque quattuor in seriem transversam mediam positis scutelli, abdomine, vittis femorum anticorum, tibiis anticis, annulo-subbasali apiceque tibiarum posteriorum, nec non tarsis anticis nigris; segmentis abdominis dorsalibus posterius olivaceis, anguste viridi-marginatis; tegminibus alisque vitreis, venis olivaceo-flavescentibus, pone medium fuscis, macula anastomosium maculaque ad apicem ramorum ulnarium fuscis."

"♂. Lobis tympana tegentibus convexiusculis, pallide subolivaceo-virescentibus, intus et postice fusco limbatis; operculis parvis, reniformibus, distantibus, apice obtuse rotundatis, pallidis, extus basin versus anguste nigro-marginatis."

"*P. pallidiventri* valde affinis, minor, vertice nonnihil latiore, oculis circiter duplo latiore, thoracis marginibus lateralibus inermibus, abdomine nonnihil graciliore et longiore, costa apice subincrassata et infuscata, area ulnari interiore apicem versus sensim subampliata, apice minus oblique truncata et angulo apicali minus obtuso instructa, area apicali prima breviore, area apicali secunda angulo basali exteriore obtuso, angulo interiore acuto, area apicali octava lateribus ultra medium parallelis, anastomosi quarta minus obliqua, longius pone medium areæ octavæ sita divergit Segmenta intermedia ventris apice viridi-limbata."

"Long. 17, lat. 6⅓, exp. tegm. 51 mill."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).

This species is quite unknown to the writer, but the figure given of one of the tegmina, combined with the differential characters as compared with *P. pallidiventris*, leave little difficulty as to its determination.

22. Pomponia expansa. (Tab. VI., fig. 13, *a*, *b*.)

Carineta expansa, Walker, Ins. Saund., Homopt. p. 26 (1858).

Pomponia expansa, Stål, Berl. Ent. Zeit. x. p. 171 (1866); Atkins. J. A. S. Beng. vol. lv. p. 176, n. 60 (1886).

Head, pronotum, and mesonotum greenish-ochraceous; head with the lateral striæ to front, the area of the ocelli, an oblique broken fascia between ocelli and outer margin, and a spot at the inner margin of eyes, black. Pronotum with two central longitudinal fasciæ, ampliated and angulated anteriorly, and rounded posteriorly, a central spot on each side of disk, the furrows and a spot on lateral margin, black.

Mesonotum with two large obconical spots starting from centre of anterior margin and connected by a central longitudinal fascia with the basal cruciform elevation, where it is broadened into a transverse fascia between its anterior angles; the central obconical spots are followed by a small spot and again by a long, curved, and posteriorly widened fascia, black; two parallel linear black spots on disk of basal cruciform elevation, and a black spot on each side of same. Abdomen greenish-ochraceous, much shaded with black, the apical third and the tympanal coverings almost wholly black. Body beneath with the head, sternum and legs greenish-ochraceous, the opercula and abdomen black; the abdomen with a marginal ochraceous fascia at apex of opercula; transverse striæ to face, a line between face and eyes, inner margins of eyes, outer margins of prosternum, a central line to and the apex of, rostrum, spots to coxæ and trochanters, linear streaks to femora, and the apices of tibiæ, black.

Tegmina and wings pale hyaline, the venation alternately ochraceous and fuscous; tegmina with a small ochraceous spot at inner angle of upper ulnar area; the transverse veins at the bases of second, third, fifth and seventh apical areas infuscated, and a marginal series of small fuscous spots placed near the apices of the longitudinal veins to apical areas; the costal membrane pale greenish.

The opercula are moderately large, convex and overlapping at centre; the rostrum extends beyond the posterior coxæ; the face has no trace of a central longitudinal sulcation.

Long. excl. tegm. ♂, 26 millim. Exp. tegm. 88 millim.

Hab.—Continental India (Brit. Mus.): Eastern Himalaya Mts. (coll. Dist.); Sikkim (Calc. Mns.).

According to the writer's present knowledge, this species seems quite confined to the North-Eastern area of Continental India.

23. Pomponia maculaticollis. (Tab. VI., fig. 11, *a*, *b*.)

Cicada maculaticollis, Motschulsky, Bull. Soc. Nat. Mosc. xxxix. p. 185 (1866).

Head, pronotum, and mesonotum greenish-ochraceous. Head with the transverse striæ to front, the area of the ocelli, a larger spot at inner margins of eyes, posterior margins of eyes, and a transverse linear spot at anterior angles of vertex, black. Pronotum with two central linear fasciæ, sinuated and ampliated anteriorly and posteriorly, a discal spot on each side, the furrows, two transverse spots on outer margin, and the extreme lateral and posterior margins, black. Mesonotum with two central obconical spots, followed by some irregular markings on anterior margin, a large spot on each side of disk, a small rounded spot at anterior angles of basal cruciform elevation and two central lines on disk of same, black. Abdomen greenish-ochraceous, the tympanal coverings and more than basal halves of segments, black. Body beneath and legs greenish-ochraceous; transverse striæ to face, inner area of eyes, central line to and apex of rostrum, femoral streaks, bases and apices of tibiæ, outer and posterior margins of opercula, and basal halves of abdominal segments, black.

Tegmina and wings pale hyaline, veins ochraceous and fuscous. Tegmina with a small ochraceous spot at inner angle of upper ulnar area; the transverse veins at the bases of the second, third, fifth and seventh apical areas infuscated, and a series of small fuscous marginal spots situate near the apices of the longitudinal veins to apical areas.

The opercula are broad, convex and overlapping; the face has a faint central longitudinal sulcation, and the rostrum extends to the posterior coxæ.

Var. a.—Differing from typical specimens by having the abdomen above ornamented by a transverse fascia of white pile situate immediately behind the tympana and widened at the lateral margins; the abdomen beneath is also more or less thickly covered with white pilosity. The opercula in this variety are also totally black.

Var. b.—In this variety the ground colour is ochraceous, and not greenish-ochraceous; the black markings to the head, pronotum and mesonotum are also much larger and more or less confluent; the

tympanal coverings are ochraceous, sometimes with black shadings; the opercula are wholly ochraceous, and the fuscous markings to the tegmina much fainter in hue.

Hab.—China: Chia Kou Ho, 1700 feet (Pratt—coll. Dist.); Shantung (coll. Dist.). Japan (coll. Sign.); Yokohama (Bruss. Mus.); Tokei (coll. Dist.).

Vars. a. and b. are from China; *var.* a. was sent home by Mr. Pratt from Chia Kou Ho, and I am indebted to Mr. J. H. Leech for the possession of the same; *var.* b. I received some years ago from Shantung, in North China, and also a single Japanese specimen from the collection of the late Mr. H. J. S. Pryer. Most of the specimens I have either examined or received from Japan, exhibit the typical appearance here described.

24. Pomponia obnubila. (Tab. VI., fig. 10, *a*, *b*.)

Pomponia obnubila, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 296 (1888).

Allied to *P. maculaticollis*, Motsch., but differing from that species by the darker and more obscure hue of the body, the distinctly pale fuscous tegmina and wings, and by the length of the rostrum, which considerably passes the posterior coxæ and terminates on the overlapping opercula.

The head is also much narrower than in *P. maculaticollis*, and the opercula are unicolorous and more broadly and regularly convex posteriorly.

Long. excl. tegm. 30 millim. Exp. tegm. 110 millim.

Hab.—Continental India: Simla (Calc. Mus.).

Genus PSITHYRISTRIA.

Psithyristria, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 712.

This genus is quite unknown to the writer, and Stål's descriptions and figures of both genus and species can therefore alone be reproduced.

"Corpus oblongum. Caput disco thoracis nonnihil angustius, parviusculum; vertice oculis circiter duplo latiore; fronte modice tunescente, in parte faciali rugis transversis medio interruptis instructa, parte basali facici circiter dimidio angustiore, a supero visa ante juga leviter prominula et jugis nonnihil latiore; clypeo apice imo anguste rotundato tectiformi; facie apice angulum acutum formante. Ocelli in triangulum æquilaterum dispositi, posteriores ab oculis quam inter se circiter duplo longius remoti. Rostrum basin coxarum posticarum nonnihil superans. Thorax postice quam antice multo latius, antice capite paullo latius, marginibus lateralibus carinatis, inermibus, pone medium nonnihil sinuatis: limbo postico angustiusculo. Abdomen maris capite, thorace scutelloque simul sumtis longius, abdomen feminæ partibus illis corporis longitudine subæquale: segmento dorsali primo maris utrimque pone tympana in lobum, tympana tota haud tegentem, ampliato, segmento dorsali ultimo maris apice utrimque in spinam producto et medio lobo acute triangulari, sæpe ægre distinguendo, instructo: segmento ventrali ultimo maris obovato; segmento dorsali ultimo feminæ apice in dentem acutum prominulo: segmento ventrali ultimo feminæ apice versus medium sensim paullo producto et medio sinu parvo angulato instructo. Opercula parva, brevia, oblique transversa, subreniformia, posterius obtuse rotundata, distantia. Tegmina vitrea, nitida; costa simplici, haud dilatata; costa venaque radiali contiguis: areola basali basin versus ampliata, venam unicam ulnarem emittente; areis apicalibus octo, octava basin versus angustata, apice vel pone medium latissima; area ulnari interiore lata, ultra medium sensim ampliata. Alæ areis apicalibus sex elongatis. Pedes mediocres: femoribus anticis subtus spinis duabus magnis, una nutante subbasali, altera erecta fere media, et interdum ante hanc denticulo obsoletissimo armatis; tarsis, præsertim anticis longiusculis."

"Genus structura tegminum maxime insigne, optime forte prope *Pomponiam* locandum."

This genus, according to present knowledge, appears to be quite confined to the Philippine Islands. My collection is poor from that habitat, and although I have a fair number of Cicadidæ from the neighbouring islands, I am without a representative of *Psithyristria*, neither have I met with a single example in the other collections I have been enabled to examine. Stål has described five species, all discovered by Carl Semper during his sojourn in the Philippine Islands.*

a. *Angulo basali areæ ulnaris quartæ subobtuso; area apicali octava angusta, basi ipsa paullo ampliata.*

1. Psithyristria specularis.

Psithyristria specularis, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 712, n. 1, Tab. VIII., fig. 16.

Fig. 3. *Psithyristria specularis.*

"Pallide olivaceo-virescens, parce griseo pilosa; fascia verticis ocellos includente, antice bisinuata, macula apicali jugorum, marginibus arearum thoracis, maculis duabus magnis obtriangularibus a basi ultra medium extensis maculisque duabus minutis pone medium disci scutelli, maculis in series duas medias positis, lateribus apiceque dorsi abdominis, macula apicali alteraque anguli basilis anterioris areolæ basalis, macula anastomoses cirgente maculaque apicem ramorum ulnarium tegminum includente fuscis; venis tegminum alarumque olivaceo-virescentibus; lateribus fuscis dorsi abdominis maculis pallidis notatis."

"♂. Long. 23, lat. 8½, exp. tegm. 77 mill."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).

"Magnitudine majore structuraque tegminum a sequentibus divergens."

"aa. *Angulo basali areæ ulnaris quartæ acuto; area apicali octava minus angusta, a basi apicem versus sensim ampliata.*"

"b. *Venis aream ulnarem tertiam apice terminantibus incrassatis vel medio nodosis, lineam rectam formantibus, area venam unicam emittente.*"

2. Psithyristria crassinervis.

Psithyristria crassinervis, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 713, n. 2, Tab. VIII., fig. 17.

Fig. 4. Tegminum of *Psithyristria crassinervis.*

"Pallide olivaceo-virescens, superne fusco-picta; tegminibus alisque vitreis, venis olivaceis, hic illic virescentibus, anastomosibus maculisque subapicalibus fuscis; anastomosi prima recurrente, angulo basali exteriore areæ apicalis secundæ igitur obtuso, angulo basali interiore acuto; venis aream ulnarem tertiam postice terminantibus incrassatis; areæ ulnari octava basi quam apice fere dimidio angustiore; areola basali lata."

"♂. Long. 22, exp. tegm. 61 mill."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).

* Several genera of terrestrial mollusca are also peculiar to the Philippines, as *Chloræa*, *Helicarion*, and *Rhysota*. See Semper, 'Natural Conditons of Existence, as they affect Animal Life,' pp. 284—5.

3. Psithyristria nodinervis.

Psithyristria nodinervis, Stål, Öfv. Vet.-Ak. Forh. 1870, p. 713, n. 3, Tab. VIII., fig. 18.

"Pallide olivaceo-flavescens, superne fusco-picta; tegminibus alisque vitreis, maculis subapicalibus obsoletis fuscescentibus; anastomosi prima excurrente; angulo basali exteriore areæ apicalis secundæ acuto, angulo basali interiore obtuso; venis aream ulnarem tertiam postice claudentibus simul sumtis versus medium sensim incrassatis, medio maxime tumidis; area apicali octava basi quam apice nonnihil angustiore."

Fig. 5. Tegminum of *Psithyristria nodinervis.*

"Long. 18, exp. tegm. 50 mill."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).

"Præcedenti valde similis, structura tegminum distincta."

"bb. *Venis aream ulnarem tertiam postice terminantibus haud incrassatis, bis fractis, area venas duas emittente.*"

4. Psithyristria tenuinervis.

Psithyristria tenuinervis, Stål, Öfv. Vet.-Ak. Forh. 1870, p. 713, n. 1, Tab. VIII., fig. 19.

"Olivaceo-flavescens, superne fusco-picta; tegminibus alisque vitreis, anastomosi prima fusco-marginata, maculis subapicalibus fuscis; angulo basali exteriore areæ apicalis secundæ acuto, interiore obtuso; area apicali octava oblonga, apicem versus sensim leviter ampliata."

Fig. 6. Tegminum of *Psithyristria tenuinervis.*

"♂. Long. 16, exp. tegm. 49 mill."

Hab.—Malay Archipelago: Philippine Isles (Semper—Stockh. Mus.).

"Præcedentibus simillima, structura tegminum divergens."

5. Psithyristria simplicinervis.

Psithyristria simplicinervis, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 713, n. 5, Tab. VIII., fig. 20.

"Olivaceo-flavescens, superne fusco-picta; tegminibus alisque vitreis, illis sordidis, anastomosibus exterioribus apiceque ramorum ulnarium fusco-maculatis; angulo basali exteriore areæ apicalis secundæ acuto, interiore obtuso; area apicali octava minus longa, angulo apicali exteriore obtuso."

Fig. 7. Tegminum of *Psithyristria simplicinervis.*

"♀. Long. 14, exp. tegm. 40 mill."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).

"Præcedentibus maxime affinis, structura tegminum divergens."

Genus CRYPTOTYMPANA.

Cryptotympana, Stål, Ann. Soc. Ent. Fr. sér. 4, i. p. 613 (1861); Hem. Afr. vol. iv. p. 6 (1866).

Body long and robust. Head broad, more or less transversely truncate between the eyes, and including the eyes a little broader than the base of the mesonotum; ocelli about twice the distance from eyes as from each other; face slightly prominent above, moderately tumid and convex beneath. Pronotum with the lateral margins slightly ampliated, but not angulated or toothed. Anterior femora distinctly and strongly spined. Metasternum moderately elevated at middle, and furnished with a posterior process turning backwards. Tympana covered. Opercula varying in length and pattern, sometimes moderately

short, or in other species nearly as long as the abdomen, and in shape either convex, rectangular or more or less acutely angulated. Tegmina with the basal cell longer, but not twice as long as broad.

The geographical distribution of this genus is comprised by the limits of the fauna treated in this monograph which thus includes all the recorded species.

Cryptotympana is a very distinct genus in the Oriental Cicadidæ, the large size of its species and their usually sombre coloration at once attracting attention, while the metasternal process is an unfailing generic characteristic.

Its nearest ally is the American genus *Fidicina*, in which Walker placed the species he described.

a. *Tegmina and wings infuscated.*

b. *Opercula with their apices angulated.*

1. Cryptotympana fumipennis. (Tab. XI., fig. 4, *a*, *b*.)

Fidicina fumipennis, Walker, List Hom., Suppl. p. 17 (1858).
Cryptotympana fumipennis, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 483.

♂. Body above black; eyes, ocelli, a central longitudinal fascia to pronotum and posterior margin of same dark ochraceous. Body beneath black; opercula very dark castaneous, in some specimens with their outer margins ochraceous.

Tegmina and wings infuscated. Tegmina with a small basal black patch, the basal third and costal area brownish-ochraceous, the outer margin and venation dark fuscous; the transverse veins at the bases of the second and third apical areas infuscated. Wings with about basal half brownish-ochraceous, inner and outer margins broadly dark fuscous, and with a blackish basal patch.

The opercula are nearly half as long as the abdomen, sinuate externally, slightly overlapping at their inner basal margins, and inwardly concavely narrowed to apices, which are angulated.

Long. excl. tegm. ♂, 51 millim. Exp. tegm. 135 millim.

Hab.—Siam (Bowring—Brit. Mus.). Malay Archipelago: Sumatra (coll. Dist. & Brit. Mus.).

2. Cryptotympana accipiter. (Tab. XIII., fig. 10, *a*, *b*.)

Fidicina accipiter, Walker, List Hom. i. p. 83, n. 8 (1850).
Cryptotympana accipiter, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 483.

"Body black, short, broad, shining, partly clothed with tawny hairs; head as broad as the fore-chest; face slightly convex, not at all prominent; mouth black, reaching the middle-hips; eyes not prominent; feelers black; scutcheon of the fore-chest furrowed, having on each side a tawny spot, which is different in size and shape from that of *C. aquila*; sides very slightly convex in front and behind, slightly notched in the middle part; scutcheon of the middle-chest adorned with a dark tawny spot on each side of the excavation, which is very slight; abdomen obconical, a little longer than the chest, dark tawny on each side towards the base, and thence to the tip clothed with deep tawny down excepting a stripe along the middle; under side tawny; opercula large, black, close, tawny on each side; drums tawny, large, more than half the length of the abdomen, irregularly triangular, narrow, pointed, and slightly curved towards the tips, adorned with innumerable pale ringlets; a short black horn at the tip of the abdomen; legs black; four hinder thighs dark tawny beneath; fore wings armed with two long black teeth."

"Wings brown, adorned with purplish and copper lustre, blackish brown mottled with pale brown on more than one-third of the length from the base of the fore wings, and on more than two-thirds of the hind wings; brands dark brown; veins along the fore borders of the fore wings clouded with dark brown to the tips; veins tawny, black towards the tips of the fore wings; flaps pale brown, adorned with numerous parallel streaks, black at the base, dark brown along the fore border."

"Length of the body 21 lines; of the wings 57 lines."

Hab.—Malayan Archipelago: Philippine Isles (Cuming—Brit. Mus.).

The typical specimen in the British Museum is the only knowledge of this species possessed by the writer. That specimen is here figured, and the original description reproduced.

bb. *Opercula very long, their apices very broad and somewhat convex.*

3. Cryptotympana diomedea. (Tab. XI., fig. 3, *a*, *b*.)

Fidicina diomedea, Walker, List Hom., Suppl. p. 18 (1858).

Cryptotympana diomedea, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 483.

♂. Body above dark castaneous; head with the front, the area of the ocelli, and a spot behind eyes, black. Pronotum with the furrows black and four small central basal spots of the same colour, situate two near the anterior edge of the posterior margin, and the other two on its hinder edge. Mesonotum with four obconical spots starting from anterior margin, the two outermost largest, between the two central is a discal lanceolate spot, and a spot near each anterior angle of the basal cruciform elevation, black. Abdomen almost black. Body beneath and legs pale castaneous, with a central blackish fascia to face.

Tegmina and wings palely infuscated, the venation pale castaneous; tegmina with the costal membrane and the basal cell castaneous, a small irregular basal blackish patch and the transverse veins at the bases of the second and third apical areas darkly infuscated.

The body is very robust; the opercula reaching the apical segment of the abdomen do not overlap, have their inner and outer margins almost parallel and their apices moderately convex, their inner and apical margins are also clothed with pale long hairs.

Long. excl. tegm. ♂, 48 millim. Exp. tegm. 148 millim.

Hab.—Malayan Archipelago: Sumatra (Forbes & Bock—coll. Dist.).

I have now been able to describe and figure a *male* specimen of this species for the first time, and also to fix its habitat, as Walker's description was only of an unlocalised female form.

aa. *Tegmina only faintly infuscated.*

bbb. *Opercula long, gradually narrowing to apices.*

4. Cryptotympana epithesia. (Tab. XI., fig. 5, *a*, *b*.)

Cryptotympana epithesia, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. ii. p. 325 (1888).

♂. Allied to *C. diomedea*, Walk., from which it differs by its smaller size and more hyaline tegmina and wings, but principally by the totally different structure of the opercula, which in the male of *C. epithesia* are narrowed posteriorly and are obliquely wide apart at apices, which about reach the penultimate segment of the abdomen.

Long. excl. tegm. ♂, 44 millim. Exp. tegm. 134 millim.

Hab.—Malayan Archipelago: Borneo (coll. Dist.).

B. *Tegmina and wings pale hyaline. Tegmina with basal third and costal area black or fuscous.*

5. Cryptotympana aquila. (Tab. XI., fig. 9, *a*, *b*.)

Fidicina aquila, Walker, List Hom. i. p. 84, n. 9 (1850).

Cryptotympana aquila (an var. *F. accipitris*?), Stål, Öfv. Vet.-Ak. Förh. 1862, p. 483.

♂. Body above black; eyes ochraceous: ocelli luteous. Pronotum with some indistinct discal markings and the posterior margin pale castaneous. Mesonotum with a central triangular linear fascia, on

each side of which is an irregular and inwardly notched fascia, and the basal cruciform elevation, pale castaneous. Abdomen black, the lateral margins fringed with pale castaneous pile. Body beneath very pale castaneous; the face, anterior margin of head between face and eyes, and basal abdominal patch, black. Anterior legs black, the femera streaked with pale castaneous; intermediate legs with the femora black streaked with pale castaneous, the tibiæ pale castaneous with their bases and apices black; posterior legs pale castaneous, the bases and apices of femora and tibiæ black.

Tegmina and wing pale hyaline; tegmina with the venation and the costal membrane pale castaneous, the extreme basal margin of the last black; basal third (excluding venation) and the subcostal area to apex, blackish; wings with about basal half obliquely black.

The body is robust, but moderately elongate; the opercula do not overlap at their basal margins, and at a short distance from base become widely divergent and narrowed to apices, their outer margins slightly concavely sinuate and in length they extend a little beyond the middle of the abdomen.

Long. excl. tegm. ♂, 40 to 45 millim. Exp. tegm. 115 to 120 millim.

Hab.—Malay Peninsula: Province Wellesley (coll. Dist.); Perak (Doherty—coll. Dist.). Malayan Archipelago: Sumatra (Ludeking—Leyden Mus.; Forbes—coll. Dist.); Preanger & Sumedang (Bruss. Mus.). Borneo, Elopura (Pryer—coll. Dist.); Kina Balu Mt. (Whitehead—coll. Dist.). Corea (Belcher—Brit. Mus.).

6. Cryptotympana mandarina, n. sp. (Tab. XI., fig. 7, *a*, *b*.)

Fidicina operculata, Carreno (M.S. ??); Walk. List Hom. i. p. 90, n. 19 (1850).

♂. Body above black; eyes fuscous; anal segment of the abdomen with an ochraceous spot on each side. Body beneath and legs black; a spot at anterior margin of face, two marginal spots between face and eyes, lateral margins of face, femoral streaks, posterior tibiæ (excluding bases and apices), margins of opercula, segmental margins (excluding disk), and apex of terminal segment, dark ochraceous.

Tegmina and wings hyaline, the venation fuscous; tegmina with the costal membrane castaneous, its extreme costal edge blackish, the post-costal area blackish; basal cell black; about basal third of tegmina and the subcostal area to apex pale castaneous. Wings with about basal half irregularly very dark castaneous.

The opercula extend to about half the length of the abdomen, slightly overlap at basal margin, somewhat concavely and obliquely sinuate at outer margins, and inwardly beyond base widely divergent to apices, which are narrowly and obtusely convex.

Long. excl. tegm. ♂, 40 millim. Exp. tegm. 115 millim.

Hab.—China (coll. Dist.)

Mr. Atkinson* states that "the Indian Museum possesses a specimen" of *C. operculata*, Carreno, but this is probably erroneous, as he writes that the species was recorded from N. India, though Walker—perhaps the greatest obscurantist who has yet appeared in entomology—gave no locality to the specimens he identified under Carreno's name, without any reference to the place or manner of their description.

C. *Tegmina with about basal third alone black.*

7. Cryptotympana pustulata. (Tab. XI., fig. 10, *a*, *b*.)

Tettigonia pustulata, Fabricius, Mant. Ins. ii. p. 266, n. 11 (1787); Ent. Syst. iv. p. 20, n. 15 (1794); Syst. Rhyng. p. 37, n. 21 (1803).

Tettigonia atrata, Fabr. Mant. Ins. ii. p. 267, n. 22 (1787); Ent. Syst. iv. p. 24, n. 28 (1794); Syst. Rhyng. p. 42, n. 44 (1803).

* J. A. S. Beng. vol. liii. p. 231 (1885).

Cicada atrata, Oliv. Enc. Meth. v. p. 755, n. 40 (1790).
Cicada nigra, Oliv. Enc. Méth. v. p. 750, n. 17 (1790).
Cicada pustulata, Oliv. Enc. Méth. v. p. 750, n. 18 (1790); Walk. List Hom. i. p. 118, n. 39 (1850).
Cicada atra, Sign. Rev. & Mag. Zool. 1849, p. 406, n. 1, tab. 10, fig. 1.
Fidicina atrata, Walk. List Hom. i. p. 89, n. 16 (1850).
Fidicina bubo, Walk. List Hom. i. p. 82, n. 7 (1850).
Cryptotympana bubo, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 483.
Cryptotympana atrata, Stål, Ann. Soc. Ent. Fr. sér. 4, vol. i. p. 613 (1861).
Cryptotympana nigra, Stål, Hem. Fabr. ii. p. 6, n. 1 (1869); Öfv. Vet.-Ak. Forh. 1870, p. 714, n. 1.
Stoll, Cig. fig. 118.

♂. Body above black; eyes ochraceous; mesonotum with two obscure central linear pale castaneous obconical spots, the cruciform elevation also castaneous. Body beneath black; head with the central sulcation, apex and lateral margins of face, the outer and posterior margins of opercula, margins of abdominal segments, and some scattered sternal spots, ochraceous. Legs ochraceous, femoral streaks and bases and apices of tibiæ black.

Tegmina and wings pale hyaline, the venation ochraceous and fuscous; tegmina with the costal membrane ochraceous, its extreme basal costal edge black, the post-costal area black; less than basal third of tegmina (excluding venation) black; basal cell black, with an ochraceous spot. Wings with less than basal half black.

Body robust, but moderately elongate; opercula not half the length of the body, their outer margins oblique and slightly convex, their inner margins strongly oblique to apices, which are broadly and obtusely angulated.

Long. excl. tegm. ♂, 44 millim. Exp. tegm. 125 millim.

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.). China (Calc. Mus., Bruss. Mus., coll. Sign., and coll. Dist.); Hong Kong (Bowring—Brit. Mus.). Japan (coll. Dist.).

Considerable confusion has hitherto existed in the synonymy of this species. The late Dr. Stål was the first in his endeavour to clear its position, and in his 'Hemiptera Fabriciana' he placed the species under the name of *C. nigra*, Oliv., with the *Tett. pustulata*, Fabr., as a synonym. This was owing to his not going behind the 'Entomologia Systematica, &c.,' of Fabricius, bearing the date 1794, but as the species was described in the 'Mantissa Insectorum, &c.,' of 1787, it clearly has priority over Olivier's description. Stål also correctly writes "*T. pustulatæ* America meridionalem incorrecte citat Fabricius."

Under the name of *Cicada atra*, the late Dr. Signoret recorded this species as from Java,* a locality that at present must be accepted with some doubt.

D. *Tegmina with less than basal fourth opaque and blackish.*

8. Cryptotympana corvus. (Tab. X., fig. 11, *a*, *b*.)

Fidicina corvus, Walker, List Hom. i. p. 86, n. 11 (1850); Atkins. J. A. S. Beng. vol. liii. p. 231, n. 82 (1885).
Cryptotympana corvus, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 483.
Fidicina invarians, Walk. Ins. Saund., Hom. p. 11 (1858).

♂. Body above black; eyes ochraceous; lateral margins of the abdomen fringed with ochraceous pile. Body beneath black; a spot at basal margin of face, anterior femora (excluding bases and apices), intermediate and posterior femora and tibiæ (excluding bases and apices), opercula (excluding basal margins or some basal streaks), and a broad sublateral fascia on each side of abdomen, ochraceous.

* Rev. & Mag. Zool. 1849, p. 407.

Tegmina and wings hyaline, the venation ochraceous and fuscous. Tegmina with the costal membrane ochraceous, its costal edge blackish; postcostal area blackish; basal cell and less than one-fourth of tegmina at base (excluding venation) blackish. Wings with rather less than basal third blackish.

The opercula are about half as long as the abdomen, their outer margins oblique inwardly, their inner margins outwardly and slightly concavely oblique to apices, which are obtusely angulated; basal margins slightly overlapping.

Long. excl. tegm. ♂, 45 to 47 millim. Exp. tegm. 117 to 130 millim.

Hab.—Continental India: Sikkim (coll. Dist. & Calc. Mus.); Darjeeling (Stockh. Mus.); Assam (Calc. Mus.); Sylhet (Sowerby—Brit. Mus.); Naga Hills (Doherty—coll. Dist.); Neelgiri Hills, southern slopes (Hampson—coll. Dist.).

F. *Tegmina with the dark opaque coloration, scarcely extending beyond basal cell.*

9. Cryptotympana intermedia. (Tab. XI., fig. 1, *a*, *b*.)

Cicada intermedia, Signoret, Rev. & Mag. Zool. 1849, p. 407, t. 10, f. 2.

Cryptotympana intermedia, Stål, Ann. Soc. Ent. Fr. sér. 4, i. p. 613 (1861); Atkins. J. A. S. Beng. vol. liii. p. 231, n. 80 (1885).

Fidicina immaculata, Walk. (nec. Oliv.), List Hom. i. p. 90, n. 21 (1850).

♂. Body above black or very dark castaneous; eyes ochraceous. Mesonotum with two obscure central obconical spots and the basal cruciform elevation castaneous; tympanal coverings dark castaneous. Body beneath black, somewhat thickly clothed with griseous pile; femoral and tibial streaks, posterior tibiæ (excluding bases and apices), and the opercula, ochraceous.

Tegmina and wings hyaline, the venation ochraceous; tegmina with the costal membrane and postcostal area ochraceous, extreme basal costal edge blackish; basal cell and basal patch (excluding venation) ochraceous. Wings with about basal fifth dark castaneous.

The opercula are about half as long as the abdomen, centrally overlapping on their basal halves and then oblique to apices, which are obtusely angulated, outer margins slightly oblique and reflexed.

Long. excl. tegm. ♂, 44 millim. Exp. tegm. 127 millim.

Hab.—Continental India: "North East District" (coll. Dist.); North Bengal (Miss Campbell—Brit. Mus.). Ceylon (coll. Dist.). Malayan Archipelago: Java (Sign.).

10. Cryptotympana acuta. (Tab. XI., fig. 8, *a*, *b*.)

Cicada acuta, Signoret, Rev. & Mag. Zool. 1849, p. 409, n. 4, t. 10, f. 3a.

Cicada vicina, Sign. Rev. & Mag. Zool. 1849, p. 410, n. 5, t. 10, f. 4.

Fidicina nivifera, Walk. List Hom. i. p. 80, n. 4 (1850); ib. iv. t. 1, f. 2 (1852).

Fidicina acuta, Walk. List Hom. i. p. 81, n. 5 (1850).

Fidicina bicolor, Walk. List Hom. iv. p. 1121, n. 35 (1852).

Cryptotympana acuta, Stål, Ann. Soc. Ent. Fr. sér. 4, i. p. 613 (1861); Öfv. Vet.-Ak. Förh. 1862, p. 483.

Cryptotympana vicina, Stål, Ann. Soc. Ent. Fr. sér. 4, i. p. 613 (1861); Atkins. J. A. S. Beng. vol. liii. p. 230, n. 78 (1885).

Fidicina timorica, Walk. Journ. Linn. Soc. vol. x. p. 91, n. 19 (1867).

Body above dark castaneous or black; eyes and ocelli ochraceous. Pronotum with some obscure and subobsolete darker markings. Mesonotum with two central dark obconical spots, on each side of which is a longer dark fascia and a curved fascia in front of the anterior angles of the basal cruciform elevation, black. Abdomen with a large lateral greyish-white fascia on each side occupying three basal segments behind the tympana. Body beneath dark castaneous; the sternum thickly clothed with greyish-pile; the opercula ochraceous, apical segment of the abdomen and anal appendage—excepting a dark central spot to each—ochraceous.

Tegmina and wings hyaline, the venation ochraceous and fuscous. Tegmina with the costal membrane ochraceous, the postcostal area blackish; the base, as far as extremity of basal cell (excluding venation), irregularly blackish; transverse veins at bases of second and third apical areas infuscated (in the specimen figured the upper apical area is practically wanting), and a pale fuscous outer marginal fascia. Wings with less than basal third (excluding venation) blackish.

Opercula more than half the length of the body, overlapping at their basal margins, the outer margins slightly concavely sinuate, the inner margins concavely and obliquely sinuate to apices, which are subacutely angulated.

Long. excl. tegm. ♂, 36 to 43 millim. Exp. tegm. 102 to 130 millim.

Hab.—Continental India: "Bhutan Duárs"* (Calc. Mus.). Malayan Archipelago: Java (coll. Sign.; Argent—Brit. Mus.); Kederi (von Hügel—coll. Dist.); Borneo, Sandakan (Pryer—coll. Dist.); Philippine Isles (Semper—Stockh. Mus.); Palawan (coll. Dist.); Timor (Wallace—Brit. Mus.).

I have examined a typical specimen of *C. vicina*, Sign., which was kindly forwarded to me by my late friend Dr. Signoret, and I found it impossible to separate it from the figure of *C. acuta* given by the same author. The operecula of *C. vicina* shown by another figure are apparently not correctly pourtrayed, if the specimen forwarded to me as typical could be relied on, which coming from its describer should surely be the case. Under these circumstances I have felt no hesitation in placing *C. vicina*, Sign., as a synonym of *C. acuta*, Sign. Dr. Signoret's figure of *C. acuta* is also much more brightly coloured than any specimen that has come under my observation.

11. Cryptotympana demissitia, n. sp. (Tab. XIII., fig. 11, *a*, *b*.)

♂. Body above very dark castaneous, abdomen almost black; eyes ochraceous; pronotum with the posterior and lateral margins paler; mesonotum with six obscure obconical spots on anterior margin, the two central plainest, and a curved fascia between anterior angles of the basal cruciform elevation black. Body beneath dull, dark ochraceous; sternum thickly clothed with ochraceous pile; face, space between face and eyes, the anterior tibiæ and the rostrum blackish; intermediate tibiæ with the bases and apices blackish.

Tegmina and wings hyaline with a very slight fuscous tinge, the venation dark, dull ochraceous; tegmina with the costal membrane ochraceous, the postcostal area blackish, the transverse veins at the bases of the second and third apical areas infuscated; the base as far as extremity of basal cell (excluding venation) blackish. Wings with the base very narrowly blackish.

Opercula very long, extending to the apical segment of the abdomen, slender, divergent, with their apices subacute.

Long. excl. tegm. ♂, 42 millim. Exp. tegm. 115 millim.

Hab.—Malayan Archipelago: Sumatra (coll. Dist.).

The great length and peculiar structure of the opercula render this species very distinct.

12. Cryptotympana recta. (Tab. X., fig. 10, *a*, *b*.)

Fidicina recta, Walker, List Hom. i. p. 79, n. 3 (1850).

Cryptotympana recta, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 483; Atkins. J. A. S. Beng. vol. liii. p. 230, n. 77 (1885).

♂. Body above black, sparingly clothed with ochraceous pile; eyes castaneous; mesonotum with two very obscure and subobsolete central obconical spots; body beneath black, the sternum thickly clothed with greyish pile; legs blackish, intermediate tibiæ and posterior femora and tibiæ castaneous, streaked with black; opercula ochraceous; abdomen with a broad lateral fascia of ochraceous pile on each side.

* This locality is given on the authority of Mr. Atkinson (J. A. S. Beng. vol. liii. p. 230, 1885).

Tegmina and wings hyaline, the venation ochraceous or fuscous; tegmina with the costal membrane ochraceous, its extreme basal costal edge black; postcostal area black; transverse veins at the bases of the second and third apical areas darkly infuscated; base of tegmina scarcely or only slightly passing basal cell (excluding venation) black; wings with less than basal third black.

The opercula are about half the length of the abdomen, with their outer margins concavely sinuate, their inner basal margins overlapping, and from thence concavely and obliquely divergent to the apices, which are subacute.

Long. excl. tegm. ♂, 41 millim. Exp. tegm. 110 millim.

Hab.—Continental India: Sylhet (Sowerby—Brit. Mus.); North Khasi Hills (Chennell—coll. Dist.); Neelgiri Hills, South Slopes (Hampson—coll. Dist.).

This species has considerable resemblance to *C. corvus*, Walk., also found in the same locality. *C. recta*, however, is smaller, the costal membrane of the tegmina has only its extreme basal edge black, and the basal black patch to the tegmina and wings is somewhat smaller than in *C. corvus;* the colour of the legs, the shape and absence of black markings to the opercula are also different.

13. Cryptotympana facialis. (Tab. XI., fig. 11, *a*, *b*.)

Cicada facialis, Walker, List Hom., Suppl. p. 30 (1858).
Cryptotympana facialis, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 483.
Fidicina nigrofuscata, Motsch. Bull. Soc. Nat. Mosc. xxxix. p. 185 (1866).

♂. Body above black, sparingly and finely pilose; tympana castaneous, basal abdominal segment narrowly margined with greyish-white pile, especially at the lateral margins; eyes dull obscure ochraceous. Body beneath thickly clothed with greyish-white pile; head, prosternum, lateral margins and a broad central fascia to abdomen, dull olivaceous; anterior and intermediate legs dull olivaceous streaked with ochraceous, posterior legs ochraceous, femoral streaks and apices of tibiæ olivaceous; opercula bright ochraceous; face with a central longitudinal fascia and the margins of head between face and eyes dull ochraceous.

Tegmina and wings hyaline, the venation olivaceous and fuscous; tegmina with the costal membrane olivaceous, the postcostal area blackish; transverse veins at the bases of the second and third apical areas slightly infuscated; base of tegmina not extending beyond basal cell (excluding venation) blackish; vein beneath lower ulnar area reddish ochraceous; wings with less than basal half blackish.

The opercula are about half the length of the body, subovate, overlapping at their central basal margins, and their apices broadly and convexly rounded.

Long. excl. tegm. ♂, 45 to 49 millim. Exp. tegm. 120 to 124 millim.

Hab.—Siam (Bowring—Brit. Mus.). China: Shantung (coll. Dist.). Japan (Pryer—coll. Dist.); Ryukyu (coll. Dist.).

14. Cryptotympana sinensis. (Tab. XI., fig. 6, *a*, *b*.)

Cryptotympana sinensis, Distant, Ann. & Mag. Nat. Hist. ser. 5, vol. xx. p. 415 (1887).

♂. Head ochraceous; front with the margins (but not meeting at apex) broadly castaneous; eyes olivaceous; ocelli reddish-ochraceous, with their surrounding area castaneous. Pronotum castaneous, the margins and a central fascia, which is much widened and ampliated at base, ochraceous. Mesonotum ochraceous, with two large obconical castaneous spots near each lateral margin and two large, central, very obscure obconical spots, which are only visible by their slightly darker margins; basal cruciform elevation pale olivaceous. Abdomen above ochraceous, the posterior segmental margins castaneous. Body beneath and legs ochraceous; face with the lateral carinæ castaneous; apices of the tibiæ and tarsi castaneous.

Tegmina pale hyaline, the venation ochraceous, the costal membrane pale greenish, and the basal third of the tegminal area tinged with pale ochraceous. Wings pale hyaline, the venation ochraceous, and the base narrowly tinged with pale ochraceous.

The face is tumid, the lateral carinæ robust and slightly waved; the rostrum extends to the intermediate coxæ; the opercula are somewhat short, with their lateral margins slightly concave and their posterior margins oblique, they overlap at the centre, and their apices extend to about the second abdominal segment.

Long. excl. tegm. ♂, 40 millim. Exp. tegm. 118 millim.

Hab.—China: Shantung (coll. Dist.).

15. Cryptotympana insularis. (Tab. XI., fig. 2, *a*, *b*.)

Cryptotympana insularis, Distant, Ann. & Mag. Nat. Hist. ser. v. vol. xx. p. 416 (1887).

Head, pronotum, and mesonotum dark olivaceous; eyes ochraceous, front with some basal black carinæ on each side of lateral margins; ocelli shining ochraceous. Pronotum with a pale central longitudinal impression with some short transverse carinæ at base, and with two oblique linear incisions on each lateral half. Mesonotum with two dark central obconical spots starting from anterior margin, and on each side of these spots is a smaller and more obscure spot; a dark castaneous spot in front of the basal cruciform elevation, which is pale olivaceous. Abdomen above dark shining brownish olivaceous, the segments more or less clothed with pale pilosity. Body beneath olivaceous; face with a central, longitudinal, levigate, ochraceous fascia, which is somewhat obliterated near centre; rostrum pitchy and almost reaching the posterior coxæ; abdomen beneath brownish ochraceous; legs with the anterior femora dark ochraceous, their apices and the anterior tibiæ and tarsi pitchy; intermediate and posterior femora brownish, the trochanters pitchy, the tibiæ ochraceous, their apices and the tarsi pitchy, the posterior tarsi with a central ochraceous annulation.

Tegmina pale hyaline, with a very slight fuscous tinge; venation and the costal membrane olivaceous, the first more brownish on basal half, and the transverse veins at the apices of the two upper ulnar areas infuscated. Wings resembling tegmina, both narrowly very dark fuscous at base.

The body is short and broad, giving the species much the appearance of the American genus *Fidicina*. The opercula slightly overlap at the centre, and are obtusely and broadly angulated at the apices, which do not pass the broad basal segment of the abdomen. Anterior femora armed beneath with two strong spines, one near base and one near apex.

Long. excl. tegm. ♂, 36 millim. Exp. tegm. 115 millim.

Hab.—Andaman Isles: Port Blair (Meldola—coll. Dist.).

This is one of the insects secured by my friend Prof. Meldola during the "British Eclipse Expedition," of which he was a member.*

16. Cryptotympana limborgi.† (Tab. X., fig. 7, *a*, *b*.)

Cryptotympana limborgi, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 296 (1888); Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 457 (1888).

Cryptotympana recta, Dist. (nec. Walk.), J. A. S. Beng. vol. xlviii. p. 40, t. 11, fig. 4 (1879).

♂. Body above olivaceous-brown. Head with the lateral striations to front and a transverse fascia between the eyes black. Pronotum with two central, oblique, discal, black fasciæ; the posterior margin

* We have during the last few years had a very considerable accession to our knowledge of the Natural History of these islands. Commencing with Mankind, we have the exhaustive and excellent ethnological treatises by Mr. E. H. Man (Journ. Anthrop. Instit. vols. xi. p. 268, xii. p. 69, and xiv. p. 253). The ornithology has been well studied, at and since the time of the Hume expedition, and the Rhopalocera have been enumerated and described by Mr. Moore (Proc. Zool. Soc. 1877, p. 580), and Messrs. Wood-Mason and de Nicéville (J. A. S. Beng. vol. xlix. p. 223, and vol. l. p. 243).

† Named after its discoverer, Mr. Ossian Limborg, who made a collecting expedition in the district east of Moulmein, Tenasserim Provinces.

olivaceous, with its inner border and the anterior margin narrowly black. Mesonotum with two central, obconical, black fasciæ on anterior margin, between which is a very narrow and indistinct dark line; on each side of the obconical spots is a smaller spot and a short oblique, discal, black fasciate line on each side near base. Abdominal segmental margins and inner area of tympana blackish; abdomen laterally clothed with greyish pile. Body beneath olivaceous-brown; anterior tibiæ and tarsi, apices of intermediate and posterior tibiæ and the tarsi blackish. Opercula olivaceous, with their inner margins blackish; abdomen beneath dark castaneous, the lateral margins broadly covered with ochraceous pile.

Tegmina and wings pale hyaline, their bases blackish, the venation ochraceous or fuscous; tegmina with the costal membrane olivaceous, the postcostal area blackish; transverse veins at the bases of second and third apical areas infuscated.

The opercula are short and suboval, their inner margins straight at base and then obliquely deflected to apices, which do not extend beyond the basal abdominal segment; their outer margins are slightly oblique and convexly deflected at apices.

Long. excl. tegm. ♂, 32 millim. Exp. tegm. 95 millim.

Hab.—Tenasserim (Limborg—Calc. Mus.); Myitta (Doherty—coll. Dist.).

When describing the Rhynchota collected by Mr. Limborg in Upper Tenasserim the typical female, *Crytotympana recta*, Walk., was alone known to me, and I then opined that the species I afterwards described as *C. limborgi* might prove to be the male of *C. recta*. But when both sexes of Walker's species had been received, further doubt was impossible.

Species known to the writer by the female sex only.

17. Cryptotympana exalbida, n. sp. (Tab. XIII., fig. 12, *a*, *b*.)

♀. Head, pronotum and mesonotum castaneous. Abdomen black. Front of the head, with the lateral striations black, vertex black; eyes ochraceous. Pronotum with two central black fasciæ anteriorly widened, a transverse linear mark at front of anterior margin, hinder edge of posterior margin and a short central transverse fascia to same, black; anterior half of lateral margins white. Mesonotum with two central obconical spots, on each side of which is a longer spot and with a lateral fascia, black; a black triangular spot in front of basal cruciform elevation with a slender prolongation extending to anterior margin. Abdomen sparingly clothed with fine griseous pile. Body beneath black; sternum thickly clothed with griseous pile and a lateral fascia of grey pile on each side of abdomen; face castaneous, the transverse striations and the longitudinal sulcation, black; space between face and eyes, and spots to coxæ, black; legs castaneous, anterior and intermediate tibiæ and tarsi black, intermediate tibiæ with a sub-basal castaneous annulation, apex of posterior tibiæ and base of posterior tarsi, black; anal appendage with an ochraceous spot on each side.

Tegmina and wings pale hyaline, the venation ochraceous and fuscous; tegmina with the costal membrane ochraceous, the postcostal area blackish; basal cell ochraceous, with its upper half black; extreme base of tegmina and a broad short streak on base of inner margin, black. Wings narrowly black at base.

The face is convexly tumid and the rostrum only just passes the intermediate coxæ.

Long. excl. tegm. ♀, 32 millim. Exp. tegm. 95 millim.

Hab.—Continental India: Neelgiri Hills, northern slopes, 3500 feet (Hampson—coll. Dist.).

I am indebted to Mr. G. F. Hampson for four female specimens of this species, which I have hitherto refrained from describing, with the desire of firstly acquiring a male example.

Having, however, now described the genus, it becomes necessary to incorporate this species, which is very distinct, even in the female sex, by its small size, and by the *white* lateral margins to the pronotum.

18. Cryptotympana tondana. (Tab. XIII., fig. 13, *a*, *b*.)

Fidicina tondana, Walker, Journ. Linn. Soc., Zool. vol. x. p. 92, n. 20 (1867).

"*Female*. Green, very stout. Head nearly as broad as the thorax; an irregular and much excavated black band between the eyes; some transverse black streaks on each side in front, the intermediate space tawny and longitudinally striated; some black dots near the hind border, which is also black. First segment of the prothorax mostly black-bordered, with a black stripe which does not extend to the hind border, and is between two irregular black stripes; these are united on the hind border and are much recurved; hind segment with a black triangular spot, which rests on the fore border. Mesothorax with four large obconical black spots, which rest on the fore border, the outer pair much longer than the inner pair. Abdomen black above. Legs piceous; knees green; fore femora much incrassated."

"Wings hyaline, slightly cinereous; veins black."

"Length of the body 16 lines; of the wings 60 lines."

Hab.—Malayan Archipelago: Celebes, Tondano (Wallace—Brit. Mus.).

This species is only known to the writer by the female typical specimen contained in the National Collection; the usual course of figuring that specimen and reproducing the original description is therefore again followed.

Species unknown to the writer.

19. Cryptotympana immaculata.

Cicada immaculata, Olivier, Enc. Méth. v. p. 752, n. 29, t. 112, f. 7 (1790); Sign. Rev. & Mag. Zool. 1849. p. 410, n. 6.

Cryptotympana immaculata, Stål, Ann. Soc. Ent. Fr. sér. 4, vol. i. p. 613 (1861); Atkins. J. A. S. Beng. vol. liii. p. 231, n. 79 (1885).

This species seems to be most nearly allied to *C. intermedia*, Sign., but differs by the clear and unspotted tegmina and wings. It was recorded as from Java; Mr. Atkinson included it in his list of Indian Homoptera through an erroneous identification by Walker.

Genus CICADA.*

Cicada, Linnæus, Syst. Nat. i. p. 704 (1766); Amyot & Serville, Hist. des Hém. p. 473, n. 371 (1843); Stål, Ann. Soc. Ent. de Fr. sér. 4, vol. i. p. 614 (1861); Hem. Afr. iv. p. 6 (1866); Dist. Biol. Centr. Am. Rhynch. Hom. p. 6 (1881).

Subgen. *Chremistica*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 714.

Subgen. *Macrotristria*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 714.

Subgen. *Dicroprocta*, Stal, Öfv. Vet.-Ak. Förh. 1870, p. 714.

* "The word 'Cicada' has been derived from *ciccum*, a thin skin, and also from *cito*, quickly, and *cadere*, to fall, a compound suggestive of their being short-lived; while ἀδειν, to sing, is stated to signify intrinsically a sound produced by motion of a pellicle. A Cicada in ancient days was the emblem of music among the Egyptians and Greeks, and according to Polybius, its effigy was struck on the coins of races who claimed superiority in that art, as the Messenians in Arcadia, and Locrians in Italy" (A. H. Swinton, 'Insect Variety,' p. 24).

Body robust and moderately long. Head broad with the front only moderately produced, including eyes about as broad as the pronotum at its posterior margin; ocelli about twice the distance from eyes as from each other; face moderately convex and tumid. Pronotum with the lateral margins moderately ampliated, but neither toothed nor spined. Anterior femora distinctly and moderately spined. Metasternum not or very slightly elevated, but not provided with a posterior process as in *Cryptotympana*. Tympana covered; opercula of variable length, generally short, but sometimes about two-thirds the length of the abdomen, their apices broadly convex. Tegmina with the basal cell generally longer than broad; apical areas eight, interior ulnar area slightly widened at apex.

This genus has an almost world-wide distribution. In America it is well represented in both the Nearctic and Neotropical regions; in the warmest parts of Europe it is not uncommon, and its name frequently forms the theme for song among the classical poets of antiquity; the Ethiopian region possesses few species of *Cicada*; but in Asia it again becomes a somewhat dominant genus, and it is also found in Australia. I have described a fine species from the Fiji Islands,* and we may probably conclude that it is not generally absent from Polynesia.

A. *Tegmina spotted.*

a. *Opercula extending to two-thirds or half the length of the abdomen.*

b. *Abdomen ornamented with longitudinal series of whitish pilose spots.*

1. Cicada leechi.† (Tab. XIII., fig. 2, *a*, *b*.)

Cicada leechi, Distant, 'Entomologist,' vol. xxiii. p. 90 (1890).

♂. Head black; the eyes, apex and base of front, and a triangular spot on anterior margin of vertex greenish-ochraceous. Pronotum castaneous; the anterior, posterior and lateral margins, a narrow central longitudinal fascia, and two small basal spots ochraceous; these ochraceous margins and spots more or less edged with black, the posterior margin crossed by three black bands—one central and one near each lateral angle. Mesonotum black, with two broken linear ochraceous obconical basal spots, the lateral margins and the basal cruciform elevation—excluding centre and apices—also ochraceous. Abdomen black, with two slightly oblique white macular fasciæ on each lateral area; outer margins of the tympanal coverings ochraceous. Body beneath, legs and opercula dull ochraceous, the sternum greyishly pilose; the lateral striations to face, the outer margins of coxæ, inner margins of anterior and intermediate femora, and the extreme apices of tibiæ and tarsi black.

Tegmina and wings pale hyaline, the venation pitchy; tegmina with the costal membrane pale greenish, the transverse veins at the bases of the second and third apical areas broadly infuscated, and those at the bases of the fifth and seventh areas narrowly infuscated; the bases of the wings narrowly pale greenish.

The opercula are long,—about extending to two-thirds the length of the abdomen,—overlapping internally, their outer margins moderately concave, their inner margins slightly convex, their apices angularly rounded.

Long. excl. tegm. ♂, 38 millim. Exp. tegm. 105 to 110 millim.

Hab.—China: Wa Shan and Chia Kou Ho (Pratt—coll. Dist.).

Besides the bright and peculiar markings of this species, the unusual length of the opercula affords a very distinctive character for specific differentiation.

* *Cicada kuruduadua*, Dist. Trans. Ent. Soc. 1881, p. 645; and in Waterhouse, 'Aid ident. Ins.' tab. 100.

† Named after Mr. J. H. Leech, to whose initiative the Chinese zoological explorations of Mr. Pratt are due, and to whose kindness I am indebted for the *Cicadidæ* thus collected.

bb. *Abdomen not ornamented with longitudinal series of spots.*

2. Cicada bihamata. (Tab. XII., fig. 8, *a*, *b*.)

Cicada bihamata, Motschulsky, Études Entomol. 1861, p. 21.

♂. Head black; a spot at base of front, the anterior marginal angles of vertex, and a spot a little before posterior margin of eyes, ochraceous; ocelli and eyes dull ochraceous. Pronotum castaneous, its margins ochraceous; a central black fascia containing a lanceolate ochraceous spot and with a wide basal spot of the same colour; lateral margins inwardly and posterior margin inwardly and outwardly black, the posterior marginal angle and an oblique spot just before it also black. Mesonotum black, with two discal angulated ochraceous fasciæ united at anterior margin; the lateral margins and the lateral sides and angles of the basal cruciform elevation ochraceous. Abdomen above blackish castaneous; apical segments centrally marked with ochraceous. Body beneath blackish, a spot on anterior margin of face, a marginal spot between face and eyes, lateral margins of the prosternum, legs, opercula and segmental margins, ochraceous; legs with some blackish markings.

Tegmina and wings pale hyaline. Tegmina with the venation ochraceous and fuscous: basal cell almost—sometimes partly—black; transverse veins at the bases of the second, third, fourth, fifth and seventh apical areas infuscated; base of claval area ochraceous. Wings with the base narrowly ochraceous.

The opercula about half, or a little more than half, the length of the abdomen, are divergent, with their apices broad, and convexly rounded, their outer margins concavely sinuate and black at outer basal margin.

Long. excl. tegm. ♂, 33 millim. Exp. tegm. 88 millim.

Hab.—Japan (Pryer & Lewis—coll. Dist.); Tokoe (coll. Dist.).

aa. *Opercula short.*

c. *Abdomen ornamented with longitudinal series of whitish pilose spots.*

3. Cicada sinensis. (Tab. XIII., fig. 3, *a*, *b*.)

Cicada sinensis, Distant, 'Entomologist,' vol. xxiii. p. 90 (1890).

♂. Head and pronotum greenish ochraceous; head with a broad black fascia between the eyes; pronotum with two short narrow discal black fasciæ near anterior margin and a black band across the posterior margin near each lateral area. Mesonotum castaneous, with a central tri-lanceolate greenish-ochraceous spot with the surrounding area black, a lateral black fascia on each side outwardly margined with greenish-ochraceous, the centre and apices of the basal cruciform elevation black. Abdomen black, with two longitudinal and slightly oblique macular white fasciæ on each lateral area; outer margins of the tympanal coverings ochraceous. Body beneath pale ochraceous, thickly clothed with greyish pile; legs greenish-ochraceous.

Tegmina and wings pale hyaline, the venation greenish inwardly, fuscous outwardly; tegmina with the costal membrane ochraceous and its outer margin pale sanguineous, the transverse veins at the bases of the second and third apical areas infuscated; extreme bases of the tegmina and wings pale sanguineous.

The opercula are short, not extending beyond the basal segment of the abdomen, convexly rounded externally, and slightly overlapping at their inner margins.

Long. excl. tegm. ♂ and ♀, 29 to 32 millim. Exp. tegm. 80 to 85 millim.

Hab.—China: Chia Kou Ho (Pratt—coll. Dist.).

B. *Tegmina clear and unspotted.*

a. *Opercula about half the length of the abdomen.*

4. Cicada coronata. (Tab. XII., fig. 11, *a*, *b*.)

Cicada coronata, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 52 (1889).

♂. Body above ochraceous; anterior margin of front, a broad transverse fascia at base of head, extending between and behind the eyes, a narrow fascia near lateral margins of pronotum, and a small

central transverse linear spot at base of same, four obconical spots at anterior margin of pronotum (the central pair smallest), an irregular spot in front of cruciform elevation, and anterior margins of abdominal segments, black. Body beneath and legs ochraceous; opercula ochraceous, with the lateral margins greyish and with a black spot at inner apical angles; abdomen beneath with the anterior segmental margins, the apical segment, and apex of abdominal appendage, black.

Tegmina and wings pale hyaline, the venation ochraceous and fuscous; tegmina with the costal membrane ochraceous, the postcostal area fuscous.

The opercula are long and overlapping at inner margins, their outer margins slightly concavely sinuate, their apices convexly rounded; the rostrum reaches the posterior coxæ.

Long. excl. tegm. ♂, 28 millim. Exp. tegm. 74 millim.

Hab.—Malayan Archipelago: Sumatra (Van Lansberg—Leyden Mus.).

5. Cicada ochracea. (Tab. XII., fig. 13, *a*, *b*.)

Fidicina ochracea, Walker, List Hom. i. p. 99, n. 32 (1850); Stål, Öfv. Vet.-Ak. Förh. 1862, p. 481.
Cicada ferrifera, Walk. List Hom. i. p. 115, n. 21 (1850).
Dundubia fasciceps, Stål, Öfv. Vet.-Ak. Förh. 1854, p. 242.
Cicada fuscipes, Stål, Berl. Ent. Zeit. 1866, p. 171.*

♂. Body above warm ochraceous; anterior margin of head black. Body beneath and legs much paler than above.

Tegmina and wings pale hyaline, the venation ochraceous.

Opercula about half the length of the abdomen, their inner margins overlapping, their apices convexly rounded; rostrum not quite reaching the posterior coxæ.

Long. excl. tegm. ♂, 25 to 27 millim. Exp. tegm. 70 to 75 millim.

Hab.—China (Stockh., Calc. and Brit. Mus.). Formosa (coll. Dist.).

This is a very distinct and easily recognised species of *Cicada;* the uniform ochraceous colour of the body, and the deep black anterior margin of the head, render specific doubt impossible.

6. Cicada tagalica. (Tab. VI., fig. 8, *a*, *b*.)

Cicada (*Chremistica*) *tagalica*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 714, n. 2.

"Dilute olivacea; fascia lata verticem fere totum occupante, fronte inter rugas, basi vittaque media exceptis, fascia genarum, loris, basi excepta, lateribus clypei, rostro apicem versus, vittis sex, lateralibus obliquis, disci antici thoracis, maculis quattuor oblongo-obtriangularibus anterioribus, lateralibus ultra medium extensis, lituraque litteram T reversam (⊥) simulante discoidali scutelli, dorso abdominis, apice coxarum posteriorum, vitta trochanterum, femoribus anticis subtus, tibiis apice superne, tibiis anterioribus interdum fere totis, tarsis totis vel basi et apice nigris; tegminibus alisque vitreis, interdum obsolete subinfuscatis, venis olivaceis, apicem versus obscurioribus, vena postcostali, raro ulnari, postcostali, interdum etiam costa posterius nigris; segmento dorsali anali maris olivaceo-flavescente."

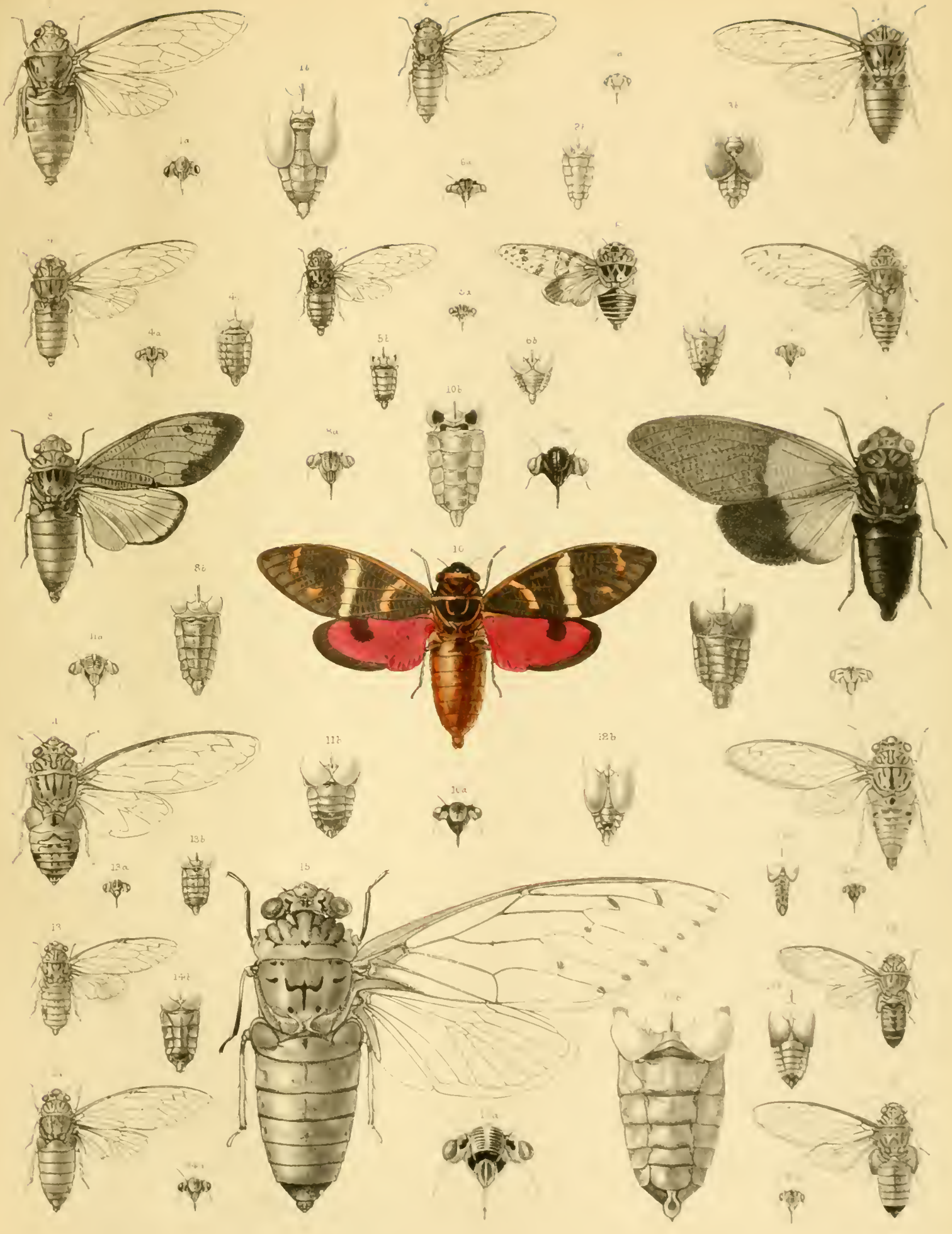
♂. Operculis distincte nonnihil longioribus quam latioribus, retrorsum sensim distincte angustatis, apice subsemicirculariter rotundatis, prope basin contiguis, haud tamen valvantibus, dein sensim divaricatis, olivaceo-flavescentibus, intus sæpius nigricantibus."

"Long. 29, lat. 12, exp. tegm. 90 mill."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).

I am indebted to Dr. Aurivillius for the opportunity of figuring this species, and I have thought it best to reproduce the principal part of Stål's original description.

* Stål here refers to *Dundubia fuscipes*, Stål, which is evidently a misprint for *Dundubia fasciceps*, Stal.



aa. *Opercula not half the length of the abdomen.*

7. Cicada pontianaka. (Tab. V., fig. 7, *a*, *b*.)

Cicada pontianaka, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 298 (1888).

Head and thorax above dark ochraceous. Head with the front laterally striated with black; vertex with the area of the ocelli and the lateral areas black. Pronotum with two short, central, black fasciæ at base, which widen anteriorly to behind the eyes; the posterior margin olivaceous. Mesonotum with two central obconical spots, between which is a central spot widened at base and a curved spot on each lateral area, all black. Abdomen above dark castaneous, shaded with pitchy suffusions and sparingly and palely pilose. Body beneath ochraceous; femora and tibiæ tinged with castaneous,—excluding apices of femora and bases of tibiæ; opercula pale castaneous, the margins palely pilose. Abdomen beneath dark castaneous, the margins palely pilose.

Tegmina and wings pale hyaline, the venation dark brownish; tegmina with the apical area shaded with bronzy reflexions; the costal membrane castaneous, excepting apical half, which is black; base greenish, transverse veins at bases of second and third apical areas narrowly infuscated.

The face is somewhat flat and deeply transversely striate, excepting a central, longitudinal, levigate line; the rostrum just passes the intermediate coxæ; the opercula do not extend beyond the basal abdominal segment, have their lateral margins somewhat straight, their inner margins very slightly overlapping, and their apices somewhat broadly rounded.

Long. excl. tegm. ♂, 32 millim. Exp. tegm. 97 millim.

Hab.—Malay Peninsula: Perak (Doherty—coll. Dist.). Malayan Archipelago: Sumatra (Leyden Mus.; Bock—coll. Dist.). Java (Piepers—Leyden Mus.). Borneo: Pontianak (Bruss. Mus.); Kina Balu Mt. (Whitehead—coll. Dist.). Sulu Islands: Jolo (coll. Dist.).

The females of this species seem to be universally much smaller than the males.

8. Cicada germana. (Tab. VII., fig. 2, *a*, *b*.)

Cicada germana, Distant, Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 457, t. iv. f. 3, *a*, *b* (1888).

Allied to *C. pontianaka*, Dist., but differing by the much paler coloration, the abdomen above testaceous blackish at base, and with a somewhat obscure narrow central longitudinal dark fascia; tegmina and wings pale hyaline with bluish reflexions, the first with the costal membrane greenish, and the transverse veins at bases of second and third apical areas not infuscated as in *C. pontianaka*.

This species also differs from *C. pontianaka* by the rostrum only reaching the intermediate coxæ and by the more tumid and less strongly striated face.

Long. excl. tegm. ♂, 30 millim. Exp. tegm. 85 millim.

Hab.—Burma: Teinzò (Fea—Genoa Mus.).

9. Cicada polyhymnia. (Tab. XII., fig. 4, *a*, *b*.)

Fidicina polyhymnia, Walker, List Hom. i. p. 94 (1850).

"Body ferruginous; head nearly as broad as the fore-chest, adorned with two irregular and interrupted black bands, one on the crown, the other on the face, which is rather prominent and very convex; mouth tawny with a black tip, reaching the hind-hips; eyes prominent; feelers black: fore-chest a little narrower before than behind; furrows, sides and hind border of the scutcheon blackish; hind-scutcheon pale ferruginous, nearly as broad in the middle as on each side, where it forms two obtuse angles; scutcheon of the middle-chest adorned with three very broad obconical pitchy stripes; hind border very slightly excavated: abdomen obconical, pitchy, longer than the chest; hind borders of the segments ferruginous: opercula close, pitchy; drums tawny, large, meeting beneath, less than half the length of the

abdomen: legs tawny; feet and fore-shanks pitchy; claws black; fore-thighs armed with three pitchy teeth, two of which are large and one extremely small."

"Wings tinged with tawny; fore border ferruginous as far as the brand, pitchy from thence to the tip; veins black, ferruginous at the base; primitive areolet, fore membrane, flaps at the base and along part of the hind border tawny."

"Length of the body 14 lines; of the wings 42 lines."

Hab.—Malayan Archipelago: Philippine Islands (Cuming—Brit. Mus.).

The type of this species contained in the collection of the British Museum is alone known to the writer, and is here figured.

13. Cicada viridis. (Tab. XII., fig. 19, *a*, *b*.)

Tettigonia viridis, Fabricius, Syst. Rhyng. p. 39, n. 28 (1803), excl. syn.*

Cicada bimaculata, Oliv. Enc. Méth. v. p. 756, n. 46 (1790); Germ. Thon. Ent. Arch. ii. p. 7, n. 84 (1830); Germ. Silb. Rev. Ent. ii. p. 61, n. 13 (1834); Stål, Berl. Ent. Zeit. x. p. 171 (1866).

Cicada atrovirens, Guér. Voy. Coq. Ins. p. 182 (1830).

Cicada viridis, Stål, Hem. Fabr. ii. p. 5, n. 1 (1869); Dist. Ann. & Mag. Nat. Hist. ser. 6, vol. ix. p. 325 (1892).

Cicada (*Chremistica*) *viridis*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 714, n. 1.

Dundubia mixta, Kirby, Journ. Linn. Soc. Zool. vol. xxiv. p. 128 (1891).

♂. Body above dark castaneous. Head with the base and striations to front, a broad fascia between eyes, widened at ocelli, hinder margins of eyes, and anterior angles of vertex black. Pronotum with two central fasciæ outwardly angulated anteriorly and posteriorly, and the furrows, black; lateral and posterior margins dull, dark ochraceous. Mesonotum with a large semi-lanceolate spot, its base in front of cruciform elevation and gradually narrowed to anterior margin, on each side of this two obconical spots (the innermost smallest, the outermost broken), and the posterior lateral margins black. Abdomen with discal transverse segmental black fasciæ, and with a large greyish-white tomentose spot on each side of the second segment. Head beneath, sternum, legs and opercula pale ochraceous; abdomen pale castaneous, the margins of the abdominal segments narrowly pale ochraceous; rostrum (excluding base), anterior tibiæ and tarsi, the apices of the intermediate tibiæ, and a transverse fascia at base of abdomen, black.

Tegmina and wings pale hyaline, the venation greenish and fuscous; tegmina with the costal membrane greenish, the postcostal area blackish, basal cell nearly totally pale greenish, a small basal spot and the inner margin to clavus, black.

The opercula are very small, overlapping at centre, and not passing the basal abdominal segment.

Long. excl. tegm. ♂, 30 millim. Exp. tegm. 80 to 85 millim.

Hab.—Ceylon (Green—Brit. Mus.). Malayan Archipelago: Java (Guér.); Philippine Isles (Semper—Stockh. Mus.).

This species has a superficial resemblance to the Australian *Psaltoda harrisi*, Leach.

Species known at present by the female sex only.

11. Cicada elopurina. (Tab. XII., fig. 5, *a*, *b*.)

Cicada elopurina, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 297 (1888).

♀. Body above castaneous. Head with a fascia across front, a spot near base of antennæ, the area of the ocelli, and a spot behind the eyes black. Pronotum with two central black fasciæ, the posterior margin more or less olivaceous. Mesonotum with two central, incurved, black spots starting from anterior margin, between which is a black fascia crossing the whole of disk; beyond the central incurved spots is a

* "Patria Americam meridionalem incorrecti citat Fabricius."—Stål (Hem. Fabr. ii. p. 5).

small spot on each side and a sublateral and somewhat indistinct black fascia; a black spot in front of each anterior angle of the basal cruciform elevation. Abdomen above with the posterior segmental margins black. Body beneath thickly clothed with greyish pile; face with a central black fascia.

Tegmina and wings pale hyaline, the venation very dark olivaceous or brown; tegmina with the costal membrane olivaceous.

Long. excl. tegm. ♀, 28 millim. Exp. tegm. 82 millim.

Hab.—Malayan Archipelago: Borneo, Elopura (Pryer—coll. Dist.).

12. Cicada flammata, n. sp. (Tab. XIII., fig. 15, *a*, *b*.)

♀. Head, mesonotum and abdomen black, the pronotum reddish-ochraceous. Head with a spot at base and apex of front, a spot at anterior angles of vertex and a spot behind eyes reddish-ochraceous; eyes ochraceous. Pronotum with two slender central black fasciæ, narrowed, angulated and joined posteriorly; inner edge of lateral and posterior margins, outer edge of posterior margin and edge at lateral angles, black. Mesonotum with two central obconical spots, the margins of which are reddish-ochraceous; the cruciform elevation (excepting centre and angular apices) also reddish-ochraceous. Abdomen with faint traces of a double longitudinal series of white pilose spots. Body beneath dark castaneous, the sternum thickly clothed with greyish-white pile; space between eyes and face black, enclosing an ochraceous spot on anterior margin; legs ochraceous.

Tegmina and wings hyaline, the venation ochraceous and fuscous. Tegmina with the base—not extending beyond basal cell—ochraceous, a black linear streak extending along inner edge of costal membrane, which is ochraceous; transverse veins at the bases of the second and third apical areas, and sometimes the interior of the upper apical area, infuscated; wings with the base narrowly ochraceous, and with an inner and an outer claval ochraceous streak.

Long. excl. tegm. ♀, 40 millim. Exp. tegm. 120 millim.

Hab.—Japan: Yesso and Tokoe (coll. Dist.).

One mutilated male and two female specimens of this species have been examined, the male, unfortunately, with its opercula extracted, and consequently the females alone have been described.

C. flammata is allied to *C. leechi*, Dist., and *C. bihamata*, Motsch.

Species only known to the writer by description.

13. Cicada semperi.

Cicada (*Chremistica*) *semperi*, Stål, Öfv. Vet.-Ak.Förh. 1870, p. 715, n. 3.

"Superne croceo nigroque variegata, subtus olivaceo-flavescens, dorso abdominis nigro, griseo sericeo, in dorso et lateribus segmentorum intermediorum griseo-ferrugineo-sericeo; tegminibus alisque vitreis, venis olivaceo-flavescentibus, apicem versus fuscis, areola basali extus olivaceo-flavescente."

"♀. Long. 39, lat. 17, exp. tegm. 138 mill."

"Præcedentibus (*C. tagalica*, Stal) multo major, thorace anterius latiore, ibidem capiti æquali differt. Caput nigrum, lituris nonnullis verticis prope ocellos, maculis duabus magnis apicalibus jugorum, basi vittaque media percurrente frontis, apice genarum, basi lororum vittaque clypei croceis; rugis transversis medio interruptis calloque oblongo subbasali lævi distinctis. Thorax ante angulos laterales paullo angustatus, lateribus anterius parallelis, impressione laterali anteriore distinctissima; croceus vittis impressionum margineque omni disci nigris. Scutellum croceum, maculis obtriangularibus e basi emissis quattuor lituraque magna discoidali litteram T reversam (⊥) simulante nigris, maculis lateralibus ferrugineo-vittatis. Pedes posteriores ferruginei, femoribus subtus nigricantibus. Femora antica olivaceo-

flavescentia, subtus nigra, utrimque nigro-vittata, spinis duabus magnis denticuloque subapicali armata. Tibiæ anticæ et tarsi nigri, tarsi posteriores prope apicem ferruginei. Ramus primus ulnaris æquæ longe a basi venæ ulnaris ipsius ac a ramo ulnari secundo remotus. Areæ ulnaris interior apicem versus sensim distincte nonnihil ampliata. Segmentum ventrale primum in medio, margo apicalis segmentorum intermediorum in medio maculæque discoidales segmenti sexti nigræ."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).

APPENDIX TO THE SUBFAMILY CICADINÆ.

The following undescribed species of Cicadinæ have been received since this work was commenced, and are here included :—

Genus ANGAMIANA.

Angamiana, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. v. p. 234 (1890).

Body robust and elongate, broad and somewhat flattened. Head small, including eyes much narrower than pronotum, and narrower than base of mesonotum; ocelli much wider apart from eyes than from each other; face convex, slightly prominent above. Pronotum with the lateral and posterior margins very broad, the lateral margins strongly ampliated and obscurely angulated. Anterior femora distinctly and robustly spined. Tympana covered; opercula broad, obtusely angulated, not reaching the middle of the abdomen. Tegmina with the apical third more or less reticulately veined, the apical areas numerous, generally twelve or thirteen in number.

This genus, founded on specimens recently collected by Mr. William Doherty in the Naga Hills, is allied to *Polyneura*, from which it differs by the much narrower head, the semihyaline and not opaque tegmina, and the different reticulation in the venation of same; the pronotal margins and the size of the opercula, are also distinctive characters. Its natural position in the *Cicadinæ* is between *Polyneura* and the Australian genus *Cyclochila*.

1. Angamiana ætherea. (Tab. XIII., fig. 1, *a*, *b*.)

Angamiana ætherea, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. 5, p. 235 (1890).

Body black; eyes castaneous; anterior, lateral, and posterior margins of pronotum (the first narrowly), and an abbreviated, central, narrow, longitudinal fascia to same, posterior margin of metanotum, head beneath (excluding face), sternum and opercula pale greenish-ochraceous; legs and rostrum black. Body more or less clothed with greyish pile, especially at the lateral margins of the mesonotum and the base and segmental margins of the abdomen.

Tegmina semihyaline and of a pale shining bronzy hue, the venation darker and either ochraceous or greenish, the costal membrane pale greenish; the extreme base and the veins enclosing the postcostal area black; the veins enclosing the two uppermost apical areas, the terminal vein of the lower ulnar area, and the outer margin dark bronzy. Wings pale bluish-green, becoming pale bronzy towards apex, the outer margin dark bronzy.

The opercula are broad and divergent, their outer margins convex, their inner margins oblique, their apices obtusely angulated and not reaching the middle of the abdomen. The rostrum about reaches the posterior coxæ.

Long. excl. tegm. ♂, 46; ♀, 40 to 42 millim. Exp. tegm. ♂ & ♀, 124 to 132 millim.

Hab.—Continental India: Naga Hills (Doherty—coll. Dist.).

Genus LEPTOPSALTRIA (*ante*, p. 31).

15. Leptopsaltria morrisi, n. sp.

♂. Body above ochraceous. Head with the margins of front—excepting apex—anterior angles of vertex, and reticulated markings covering the whole disk of vertex, which enclose ocelli, form an irregularly hollow circular spot before the eyes, and emit two longitudinal central lines from ocelli to base, black. Pronotum with two central longitudinal linear fasciæ—widened anteriorly and angulated posteriorly—and the furrows blackish. Mesonotum with a central longitudinal fascia, on each side of which anteriorly is a short oblique fascia, a large and wide irregularly-curved submarginal fascia, the anterior angles of the cruciform elevation, and a spot in front of each of the same, black. Abdomen, with the posterior margins of the segments, the last segment and anal appendage—both above and beneath—and an obscure marginal row of spots on each side, blackish. Body beneath and legs very pale ochraceous; an oblique fascia between face and eyes, transverse linear fasciæ to face, broken by a longitudinal line at centre,—a spot on each side of base of rostrum, under surface and spines of anterior femora, sternal spots, a transverse central fascia at base of abdomen and abdominal tubercles, black.

Tegmina and wings pale hyaline, the venation ochraceous and black; the first, with costal membrane and a spot at costal basal angle of upper ulnar area, pale ochraceous; the transverse veins at bases of second and third apical areas infuscated, and a series of very faint fuscous marginal spots at apices of longitudinal veins to apical areas.

The rostrum reaches the latitude of the first pair of abdominal tubercles; the opercula are very wide apart, small, and somewhat irregularly rectangular in shape.

Long. excl. tegm. ♂, 19 millim. Exp. tegm. 55 millim.

Hab.—Continental India: Madras Province, Shivarai Hills (A. W. Morris—coll. Dist.).

This distinct species is easily recognised by the abdominal markings.

Genus COSMOPSALTRIA (*ante*, p. 43).

51. Cosmopsaltria feæ.

♂. Body above brownish ochraceous and moderately pilose. Head with a central spot at apex of front, and the anterior angles of the vertex ochraceous. Pronotum with the anterior margin,—narrowly,—a narrow central longitudinal fascia, and the posterior and lateral margins, broadly ochraceous; extreme hinder margin narrowly black. Mesonotum with two obscure obconical spots at anterior margin, outwardly and narrowly margined with blackish, and a large obscure marginal fascia on each side pale castaneous: the cruciform elevation ochraceous. Body beneath and legs pale ochraceous; the face brownish ochraceous: the anterior and intermediate tibiæ and tarsi black, the tibiæ streaked with ochraceous.

Tegmina and wings pale hyaline, the venation ochraceous and blackish, mostly blackish; tegmina with the costal membrane ochraceous, with a central black line; postcostal area ochraceous; extreme base narrowly ochraceous; venation of basal cell black at posterior margin, remainder ochraceous.

Opercula almost reaching the apex of abdomen, moderately convex on each side and at apex, concave on each side near base.

Long. excl. tegm. ♂, 45 millim. Exp. tegm. 122 millim.

Hab.—Burma: Carin, Asciuii Gheeù, 1400—1500 m. (Fea—Genoa Mus.).

This species is allied to *C. jacoona*, Dist. (*ante*, p. 47, t. v. f. 3, *a*, *b*), from which it principally differs by the length of the opercula with their broader and more convex apices: the markings of the head and pronotum are also different.

52. Cosmopsaltria ficulnea, n. sp.

♂. Head, pronotum and mesonotum ochraceous, tinged with greenish; abdomen pale castaneous; upper surface finely pilose. Pronotum, with a narrow anterior margin and two angulated spots on posterior margin, castaneous; extreme hinder margin narrowly blackish; anterior area of lateral margins castaneous. Mesonotum with a large, central, castaneous angulated spot, commencing at cruciform elevation and extending to anterior margin, two obconical spots on anterior margin, and the lateral areas, olivaceous; cruciform elevation ochraceous, with a white tomentose spot on each side. Abdomen with two discal white tomentose spots on the third abdominal segment; the hind margins of the first three segments blackish, margins of remaining segments finely ochraceously pilose; tympana pale olivaceous. Body beneath and legs pale ochraceous, the tibiæ and tarsi somewhat darker in hue; lateral margins of abdomen somewhat whitely tomentose.

Tegmina and wings hyaline, the venation ochraceous and fuscous; tegmina with the basal cell and costal membrane ochraceous; the transverse veins at the bases of the second, third, fourth, fifth and seventh apical areas somewhat broadly infuscated; a marginal row of fuscous spots situate on the apices of the longitudinal veins to apical areas; and a somewhat indistinct, pale fuscous, linear, longitudinal fascia to the apical areas; lower basal area pale fuscous.

The opercula are broad, concave near base, and then broadly and outwardly lobately convex, the apices narrowed, angulated and curved outwardly, extending to near posterior margin of the fourth abdominal segment, their inner margins somewhat regularly convex.

Long. excl. tegm. ♂, 54 millim. Exp. tegm. 134 millim.

Hab.—Burma: Carin Gheeù, 1300 to 1400 m. (Fea—Genoa Mus.); Karen Hills (Doherty—coll. Dist.)

This fine species is most nearly allied to *C. saturata* (*ante*, p. 54, t. v. f. 17, *a*, *b*), from which it structurally differs by the opercula being more outwardly convex and forming a distinct lobe before apex; the body is also much longer, and the markings of the pronotum totally different.

Genus POMPONIA (*ante*, p. 68).

25. Pomponia japonensis, n. sp.

♂. Very closely resembling *P. fusca* (*ante*, p. 70, t. vii. f. 10, *a*, *b*), but differing by the opercula being widely divided, and not meeting as in Olivier's species; the rostrum also only reaches the posterior coxæ, and does not extend to the basal segment of the abdomen as in *P. fusca*.

Long. excl. tegm. ♂, 36 millim. Exp. tegm. 88 to 92 millim.

Hab.—Japan: (Pryer—coll. Dist.); Tokoe (coll. Dist.).

Since writing the description of *P. fusca* (*ante*, p. 70), where Japan was included as a habitat of the species, I have obtained a fair series from that locality, and find them all constant in the characters described above, which I had previously overlooked. *P. fusca* evidently belongs to Continental India, the Malay Peninsula, and Malayan Archipelago, but in Japan is replaced by *P. japonensis*.

Synonymy.

7. Pomponia ransonetti (*ante*, p. 72, t. vii. f. 20, *a*, *b*).

Pomponia Greeni, Kirby, Journ. Linn. Soc. Zool. vol. xxiv. p. 129 (1891).

Mr. Kirby was evidently unacquainted with my species, when he re-described it as above, under another name.

Subfam. TIBICENINÆ.

In this subfamily I am now able to include twenty Oriental genera, but more doubtless remain to be discovered in the particularly rich Cicadan fauna here studied. In the following Synopsis of Genera the salient characters have been sought; but all such "keys" are imperfect, and Nature does not readily lend herself to such a method of interpretation. The Synopsis is therefore only a contribution "*pour servir*," and is strictly limited to the genera under consideration; if a larger field were examined the analytical treatment would have to be altered.

In the sequence of genera it must also be remembered that the method here pursued is artificial, and in no sense guided by those evolutionary principles which alone give reason to classification. But this is not the choice of the writer, who has only dried mature specific forms before him, and can but endeavour to produce some kind of order out of the chaos of a large but neglected family of insects.

SYNOPSIS OF GENERA.

1. Tegmina and wings opaquely coloured. - - - - - - GÆANA.
2. Tegmina more or less opaquely coloured; wings more or less transparent, sometimes pale hyaline.
   - *a*. Apical areas to tegmina numerous, venation reticulate. - - - - TALAINGA.
   - *aa*. Generally ten, sometimes only nine, apical areas to tegmina. - - - GRAPTOTETTIX.
   - *aaa*. Generally eight, sometimes nine and even ten, apical areas to tegmina.
     - *b*. Head normal, not conically produced in front.
       - *c*. Head with the face longitudinally sulcated. - - - - - HUECHYS.
       - *cc*. Head with the face not sulcated. - - - - - - SCIEROPTERA.
     - *bb*. Head conically produced in front. - - - - - - MOGANNIA.
3. Tegmina and wings almost completely hyaline.
   - *d*. Opercula large, convex and inflated, projecting beyond the lateral margins of the abdomen. - - - - - - - - GYMNOTYMPANA.
   - *dd*. Opercula of ordinary structure.
     - *e*. Head rectangularly produced in front of inner margin of the eyes. - KAMALATA.
     - *ee*. Head convexly and globosely produced in front of inner margin of the eyes RUSTIA.
     - *eee*. Head not rectangularly or convexly produced in front of inner margin of the eyes.
       - *f*. Basal cruciform elevation to mesonotum much narrowed - - KARENIA.
       - *ff*. Basal cruciform elevation to mesonotum of ordinary structure.
         - *g*. Ulnar veins to tegmina well separated and distant at their origin from end of basal cell.
           - *h*. Tympanal coverings practically absent. - - - - TIBICEN.
           - *hh*. Tympanal coverings rudimentary.
             - *i*. Basal cell of tegmina short, not twice as broad as long. - - EMATHIA.
             - *ii*. Basal cell of tegmina about twice as broad as long.
               - *k*. Interior ulnar area of tegmina a little wider at apex than at base. CICADATRA.
               - *kk*. Interior ulnar area of tegmina not wider at apex than at base.
                 - *l*. Second and third ventral segments in male with lateral tubercles. CALCAGNINUS.
                 - *ll*. Second and third ventral segments in male without tubercles. TERPNOSIA.
         - *gg*. Ulnar veins to tegmina united at their origin from end of basal cell. - MELAMPSALTA.
   - *m*. Abdomen more or less inflated in the male sex.
     - *ggg*. Ulnar veins to tegmina well separated and distant at their origin from end of basal cell.
       - *n*. Eight apical areas to tegmina.
         - *o*. Head conically produced in front.
           - *p*. Venation of tegmina normal. - - - - - - PRASIA.
           - *pp*. Tegmina with an additional transverse rudimentary vein. - - LEMBEJA.*
         - *oo*. Head not conically produced in front. - - - - - BÆTURIA.
       - *nn*. Eleven apical areas to tegmina. - - - - - - ACRILLA.

* I substitute this name for *Perissoneura*, Dist. (Proc. Zool. Soc. 1883, p. 189), a generic title which has been since shown to be preoccupied in *Trichoptera* by McLachlan (Journ. Linn. Soc. Zool. 1871, vol. xi. p. 119).

Genus GÆANA.

Gæana, Amyot & Serville, Hist. de Hém. p. 463, n. 362 (1843); Stal, Hem. Afr., iv. p. 4 (1866); Atkins. J. A. S. Beng. vol. lv. p. 156 (1886).

Body long and moderately slender in the males, much shorter in the females. Head broad, including eyes, about equal in width to that of mesonotum at base; ocelli about twice the distance from eyes as from each other; face somewhat globosely convex, slightly prominent above. Pronotum with the lateral margins neither distinctly ampliated nor toothed. Anterior femora distinctly spined. Tympana considerably exposed, the tympanal covering incomplete and rudimentary. Tegmina opaque, their outer margins convexly rounded; apical areas, eight; interior ulnar area a little wider at apex than at base; wings opaque.

Gæana has considerable resemblance to the genus *Tosena*, but, apart from the exposed tympana which locates it in the Tibicininæ, it also differs from *Tosena* by the non-ampliated and non-spined lateral margins to the pronotum, the more slender body, and the convexly rounded outer margins of the tegmina.

Like *Tosena*, this genus has also all its species included in our fauna, and although, according to present knowledge, they are focussed in Continental India and Burma, others doubtless remain to be discovered in the Malayan Archipelago.

Gæana is a very variable genus, as the descriptions of the following species will show.

1. Gæana maculata. (Tab. III., figs. 17, *a*, *b*.)

Cicada maculata, Drury, Ins. ii. p. 69, t. 37, f. 1 (1773); Oliv. Enc. Méth. vol. v. p. 750, n. 20, t. 112, f. 4 (1790); Germ. Thon. Archiv. ii. 2, p. 12 (1830); Silb. Rev. Ent. ii. p. 74, n. 48 (1834); Blanch. Hist. Nat. Ins. iii. p. 165, n. 5, Hém. t. 10, f. 3 (1840).

Tettigonia maculata, Fabr. Syst. Ent. App. p. 831 (1775); Sp. Ins. ii. p. 319, n. 8 (1781); Mant. Ins. ii. p. 266, n. 12 (1787); Ent. Syst. iv. p. 20, n. 12 (1794); Syst. Rhyng. p. 37, n. 18 (1803).

Gæana maculata, Amy. et Serv, Hist des Hém. p. 464, n. 1 (1843); Walk. List Hom. i. p. 253, n. 1 (1850); Atkins. J. A. S. Beng. vol. liii. p. 222, n. 37 (1885).

Body above black; head with a spot between ocelli and eyes, mesonotum with four discal spots, and a spot on lateral margins, a spot on each side of basal cruciform elevation, and the apical segmental margin of the abdomen, ochraceous. Body beneath and legs black; a spot on each side of face, two small spots on each side of mesosternum, and a small spot near posterior coxæ, ochraceous.

Tegmina and wings blackish; tegmina greyish brown towards apex, with five ochraceous spots arranged transversely, two near base and three about centre; wings with a broad transverse subbasal patch, followed by two contiguous spots near costal margin, ochraceous; and a series of submarginal greyish brown spots in the apical areas.

The rostrum reaches the posterior coxæ; the opercula are small, and situate widely apart.

Long. excl. tegm. ♂ 35, ♀ 33 millim. Exp. tegm. ♂ and ♀, 90 to 102 millim.

Hab.—Continental India: Sikkim; Naga Hills, Khasi Hills, Samagooting, and Dhansiri Valley (Calc. Mus.). China (Bruss. Mus.; Fenton—coll. Dist.).

Var. a.

Differs from the typical form by having the ochraceous markings to the tegmina and wings replaced by pale greenish, the upper basal spot of tegmina absent, the lower spot replaced by two smaller ones; both tegmina and wings with a submarginal series of small whitish spots, and a small one of the same colour in each of the two upper ulnar areas.

Hab.—Continental India: Assam; Naga Hills (Chennell—coll. Dist.).

Var. consors. (Tab. III., figs. 20, *a*, *b*.)

Gæana consors, White, MS.*

Gæana maculata, Stål, Ofv. Vet.-Ak. Förh. 1862, p. 483.

Differs from the typical form of the species by the wings having a much larger basal patch of either ochraceous or pale greenish; submarginal series of whitish spots to both tegmina and wings as in var. *a*: both basal spots to tegmina present as in typical forms.

Hab.—Continental India: Sikkim (Calc. Mus.); Assam; Naga and Kasi Hills (Calc. Mus.; Chennell—coll. Dist.); Margherita (Doherty—coll. Dist.). Burma: Carin Gheeù (Fea—Genoa Mus.).

This variable species is always constant in the macular markings to the head and pronotum.

2. Gæana stellata. (Tab. III., figs. 15, *a*, *b*.)

Huechys stellata, Walker, Ins. Saund. Hom. p. 27 (1858); Atkins. J. A. S. Beng. vol. lv. p. 154, n. 22 (1886).

♂. Body marked as in *G. maculata*; but with the abdominal segments beneath somewhat broadly margined with ochraceous.

Tegmina pale brownish-ochraceous, pale fuscous towards apex, base—including basal cell—blackish; a transverse series of three large whitish spots at about centre, inwardly margined with a blackish suffusion; a marginal series of small whitish spots in apical areas, and a similar spot in each of the three upper ulnar areas. Wings blackish, paler between the veins, with a pale spot at inner basal margin, a small discal ochraceous streak, a series of four or five submarginal whitish spots situate in the apical areas, and with the anal area somewhat greyish margined with fuscous.

The rostrum reaches the posterior coxæ.

Long. excl. tegm. ♂, 38 millim. Exp. tegm. 98 millim.

Hab.—Continental India: Assam; Khasi Hills (Chennell—coll. Dist.).

Var. a.

♀. Tegmina with the ochraceous markings replaced by a hue of dark cinnamon, and the fuscous shadings nearly black. Wings jet-black, with the pale markings as in typical form.

Hab.—Continental India: Assam; Margherita (Doherty—coll. Dist.).

It is quite possible that *G. stellata* may prove to be another extreme variety of *G. maculata*, but in the absence of intermediate forms I have treated it here as a distinct species.

3. Gæana sulphurea. (Tab. III., figs. 22, *a*, *b*.)

Cicada sulphurea, Hope, in Royle's Illust. Bot. Himal. Introd. p. liv.; t. 10, f. 2 (1839).

Cicada pulchella, Westw. Arc. Ent. ii. p. 33, t. 57, f. 1 (1842).

Gæana sulphurea, Atkins. J. A. S. Beng. vol. liii. p. 223, n. 38 (1885).

♂. Body above black; lateral margins of vertex of head,—continued to between eyes,—pronotum (excluding the fissures, margins, and a central hour-glass-shaped fascia), four linear spots to mesonotum (sometimes united in pairs), and the margins of anal appendage, reddish-ochraceous. Body beneath and legs black; a fascia on each side of face, sternal streaks, a spot at base of tegmina, posterior segmental margins,—obliterated centrally,—and the anal appendage, ochraceous.

Tegmina and wings sulphureous; tegmina with the inner margin of costal membrane, a curved and inwardly angulated fascia crossing centre, and the whole apical area,—including the upper ulnar area,—blackish; costal membrane ochraceous, postcostal area blackish; wings with the apical area—broadly, and narrowing to anal angle—blackish.

* Walker (List. Hom. i. p. 253) referred to this name as published in the Proc. Zool. Soc. 1850. This may have been intended, but was not carried out, and *Gæana consors*, White, is a MS. name only.

Face with a narrow but distinct central sulcation; the rostrum reaching the posterior coxæ.

Long. excl. tegm. ♂, 35 to 37 millim. Exp. tegm. 85 to 92 millim.

Hab.—Continental India: Sikkim (Calc. Mus.); Nepal (coll. Dist.); Darjeeling (Stockh. Mus.).

This is a moderately scarce species, and it seems almost confined to the province of Bengal.

4. Gæana hageni. (Tab. IX., figs. 8, *a*, *b*.)

Gæana hageni, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 50 (1889).

♂. Body olivaceous-brown. Head with the lateral margins of front, pronotum with two oblique, irregular, linear spots on each lateral area, and a small central spot at base, blackish. Mesonotum with two central, obconical, castaneous spots at anterior margin.

Tegmina pale greenish; the costal membrane, a somewhat broad apical margin irregularly waved internally, a rounded spot at base of third apical area, and the apical half of inner margin (narrowly), dark brownish. Wings pale bluish-green, the apical and outer margins—not reaching base—narrowly dark brownish.

Rostrum not quite reaching the posterior coxæ. Face large and tumid, the transverse striations coarse and prominent, central sulcation only prominent at about centre.

Var. a.

Tegmina with two dark brownish spots, one at base of third apical area, and another, smaller, at base of fifth apical area.

Long. excl. tegm. ♂, 32 millim. Exp. tegm. 82 millim.

Hab.—Malayan Archipelago: Sumatra, Tandjong Morawa, Serdang (Dr. B. Hagen—Leyden Mus. and coll. Dist.).

The tympanal coverings in this species are somewhat larger than with other members of the genus; the tympana, however, are still exposed, and the other characters are strictly those of *Gæana*.

5. Gæana festiva. (Tab. III., figs. 18, *a*, *b*.)

Tettigonia festiva, Fabricius, Syst. Rhyng. p. 41, n. 41 (1803).

Cicada thalassina, Guér. & Perch, Gen. des Ins. Hém. t. 2 (1834); Guér. Voy. Coq. Ins. p. 183 (1838).

Gæana consobrina, White, MS.*

Cicada Percheronii, Guér. Ic. règne An. Ins. p. 355 (1838).

Gæana festiva, Stål, Berl. Ent. Zeit. x. p. 170, n. 1 (1866); Hem. Fabr. ii. p. 5, n. 1 (1869); Atkins. J. A. S. Beng. vol. liii. p. 222, n. 36 (1885); *ibid.* vol. lv. p. 157, n. 28 (1886).

♂. Body above black; ocelli, eyes and a broad fascia behind them reddish-ochraceous; margins of pronotum and four discal fasciæ to mesonotum—of which the two central ones are angulated and connected with the anterior angle at the basal cruciform elevation—greenish-ochraceous. Body beneath and legs black; apical half of face and a spot between face and eyes reddish-ochraceous.

Tegmina greenish-ochraceous; the radial area, a transverse fascia crossing centre from apex of radial area, near which is a large triangular spot, apex and outer and inner margins, and two small spots near base, blackish. The black area at apex is more or less broken, sometimes including a small greenish-ochraceous spot. Wings pale bluish-green; the apex broadly black—containing a pale bluish spot—and the margin continued more narrowly black to anal angle.

The face is coarsely transversely striate, and broadly sulcated at base.

Long. excl. tegm. ♂, 30 millim. Exp. tegm. 77 millim.

Hab.—Continental India: Sikkim (Calc. Mus. and coll. Dist.); Darjeeling (Stockh. Mus.). Malayan Archipelago: Sumatra, Loeboe gedang (Sumatr. Exped.—Leyd. Mus.).

* Not in Proc. Zool. Soc. 1850, as recorded by Walker (List Hom. i. p. 254), but a MS. name only.

Var. a.

Pronotum with a distinct central pale longitudinal fascia.

Hab.—Malayan Archipelago: Amboina, Suyckerbuyk (Bruss. Mus.).

Var. b. (Tab. III., figs. 19, *a*, *b*.)

Tegmina and wings with the black coloration much increased; tegmina only exhibiting three irregular and angulated greenish spots (sometimes a small subapical one); wings with more than the apical half black, enclosing three pale bluish spots.

Hab.—Continental India: Assam, south of the Brahmapootra (Chennell—coll. Dist.).

This species has apparently a very wide distribution; and the locality, Amboina, is the most eastern record of any species of the genus with which I am acquainted.

6. Gæana atkinsoni.* (Tab. IX., figs. 10, *a*, *b*.)

Gæana atkinsoni, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 49 (1889).

♂. Head and thorax above black; eyes and a transverse fascia between them, posterior margin of pronotum, two linear obconical spots on disk of anterior margin of mesonotum with its lateral margins, and the cruciform elevation, ochraceous; abdomen above and below ochraceous. Head beneath, sternum and legs black; apical half of face, a transverse spot between face and eyes, and disk and margins of sternum, ochraceous. Opercula black, their base and outer margin ochraceous.

Tegmina black; the venation, a narrow, oblique, transverse fascia near base, and a straight and wider transverse fascia near centre completely crossing the tegmina, ochraceous; two subapical spots and a similar spot in the sixth apical area reddish-ochraceous. Wings bright carmine-red; apical and outer margins and a subapical transverse fasciate spot black.

The rostrum reaches the posterior coxæ, the anterior femora are armed with two strong spines, and the body is large and robust.

Long. excl. tegm. ♂, 35 millim. Exp. tegm. 85 millim.

Hab.—Continental India: Karwar (coll. Atkinson and coll. Dist.).

To the present time I have no knowledge of *G. atkinsoni* from any other locality than the above, nor have I seen a specimen in any other of the numerous Indian collections I have been able to examine.

7. Gæana octonotata. (Tab. III., figs. 12, *a*, *b*.)

Cicada 8-notata, Westwood, Arc. Ent. ii. p. 34, t. 57, f. 2 (1843).

Gæana octonotata, Atkins. J. A. S. Beng. vol. liii. p. 221, n. 33 (1885); *ibid.* vol. lv. p. 156, n. 27 (1886).

Huechys picta, Walk. Ins. Saund. Hom. p. 28 (1858); Atkins. J. A. S. Beng. vol. lv. p. 155, n. 23 (1886).

♂. Head, pronotum and mesonotum blackish; head with the basal margin of front, basal margin of vertex, and the eyes, dull dark ochraceous; basal margin and a transverse basal spot to pronotum, the lateral margins and two central angulated fasciæ to mesonotum,—connected posteriorly with the cruciform elevation,—and the anterior and posterior angles of the cruciform elevation, dull dark ochraceous. Abdomen reddish-ochraceous, with a central black longitudinal fascia. Head beneath, sternum and legs blackish; margins of face and abdomen beneath ochraceous; base, a lateral series of spots, and base of sixth abdominal segment, blackish.

Tegmina dark, shining fuscous; the costal membrane, postcostal area and venation ochraceous; and with four pale ochraceous spots, situate one near base, two at centre, and one near costal apex. Wings sanguineous, with the apical and outer margins—not extending to anal area—fuscous.

* Named after my late entomological friend and correspondent Mr. E. T. Atkinson, who first forwarded me specimens of the species, and whose subsequent death is much lamented as a great loss to Indian entomological science.

The face has no central sulcation, but is strongly transversely striate.

Long. excl. tegm. ♂, 25 to 27 millim. Exp. tegm. 60 to 64 millim.

Hab.—Continental India: Assam (coll. Sign.*); Sikkim (Calc. Mus. and coll. Dist.).

Var. a.

Basal spot to tegmina obliterated.

Hab.—Continental India: Assam, Margherita (Doherty—coll. Dist.). Burma (Bingham—coll. Dist.).

Var. b. (Tab. III., figs. 13, *a*, *b*.)

Basal spot to tegmina obliterated, and the two central spots replaced by a narrow transverse fascia.

Hab.—Upper Burma (coll. Dist.).

8. Gæana tenebriscosa. (Tab. III., figs. 14, *a*, *b*.)

Gæana tenebriscosa, Distant, Ann. Mus. Civ. Genoa, ser. 2*a*, vol. vi. p. 454, t. iv. fig. 2, *a*, *b* (1888).

♂. Head and pronotum ochraceous. Head with the anterior margin and a basal spot to front, and a broad fascia across vertex between the eyes, black; ocelli reddish; eyes brownish-ochraceous. Pronotum with a broad central longitudinal fascia which is widened and angulated anteriorly and posteriorly, followed on each side by two spots, an oblique fascia, a patch at lateral margins, and a spot on each side of posterior margin, black. Mesonotum and abdomen black, the first crossed by two discal ochraceous fasciæ, and the anterior angles of the basal cruciform elevation also ochraceous. Body beneath and legs black; margins of the face and under surface of the femora reddish-ochraceous; a few obscure sternal spots ochraceous.

Tegmina dark bronzy-brown; the costal membrane, the venation, a costal spot at base of upper ulnar area, beneath which are two discal spots, and a subapical spot, ochraceous. Wings bluish-black tinged with carmine; bases of both wings and tegmina narrowly carmine-red.

The rostrum about reaches the posterior coxæ; the face is broad, tumid and with a central sulcation near apex.

Long. excl. tegm. ♂, 22 millim. Exp. tegm. 54 millim.

Hab.—Burma: Teinzò on the Moolay River (Fea—Genoa Mus.).

Var. a.—Tegmina possessing the lower discal spot only, the others obliterated.

Hab.—Burma (Bingham—coll. Dist.).

9. Gæana delinenda. (Tab. III., figs. 16, *a*, *b*.)

Gæana delinenda, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 291 (1888).

Huechys octonotata, Walk. (nec Westw.) List Hom. i. p. 253, n. 10 (1851).

♂. Body above brownish-ochraceous. Head with the apex of front and a transverse fascia in front of eyes, including area of ocelli, black. Pronotum with a central hour-glass-shaped fascia, and two large oblique spots on each side, black. Mesonotum with a central fascia (somewhat similar to that on pronotum) and a large spot on each lateral margin black; basal cruciform elevation blackish, its anterior angles ochraceous. Abdomen with the posterior segmental margins blackish. Body beneath and legs brownish-ochraceous; disk of face and a spot before eyes blackish.

Tegmina pale brownish-ochraceous; wings reddish-brown, with about basal third carmine-red.

Long. excl. tegm. ♂, 19 millim. Exp. tegm. 47 millim.

Hab.—Continental India: Cochin (coll. Dist.); Sylhet Brit. Mus.).

By a strange oversight Walker placed this species in the British Museum collection under the name of *Huechys octonotata*, Westw., and actually re-described that species under the name of *H. picta* (Ins. Saund. Hom. p. 28).

* The late Dr. Signoret's collection of *Rhynchota* is now contained in the magnificent Hofmuseum at Vienna.

Genus TALAINGA.

Talainga, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. v. p. 166 (1890).

♀. Body somewhat elongate, the abdomen cylindrical. Head with the front globose and prominent, including outer margins of eyes, about as broad as base of mesonotum; ocelli about twice as far apart from eyes as from each other. Pronotum with the lateral margins ampliated at posterior lateral margins. Anterior femora robustly spined. Tegmina tale-like, semi-opaque, the whole apical area with the venation reticulate and forming a mass of small cell-like areas; in some specimens the ulnar areas are also crossed by transverse veins; interior ulnar area about the same width at apex as at base; basal cell about twice as long as broad. Wings with the outer margin deeply sinuate near abdominal area; apical areas six, in some specimens broken up by transverse veins into a more numerous and reticulated series.

This diagnosis is founded on two female specimens, the structure of the abdomen implying that the tympana are uncovered in the male sex, and thus locating the genus in the *Tibicininæ*.

Talainga is allied to *Gœana*, from which it is at once distinguished by the reticulated tegmina, &c.

1. Talainga binghami. (Tab. XIII., figs. 4, *a*, *b*.)

Talainga Binghami, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. v. p. 167 (1890).

♀. Body and legs black; eyes ochraceous, their posterior margins pale sanguineous; pronotum with the lateral margins and a curved spot on lateral areas behind the eyes pale sanguineous, posterior margin —excepting extreme centre—narrowly ochraceous. Abdomen above with the marginal segments more or less greyishly pilose.

Tegmina tale-like, semi-opaque, very pale ochraceous, the venation black and margined with the same colour, the whole apical area being thus composed of numerous small, black-margined, cellular areas; the costal membrane ochraceous, the basal cell shaded with black. Wings pale bluish-green, the venation more or less concolorous, excepting that deliminating the more or less reticulated apical areas; posterior margin blackish from apex to the sinuation near abdominal area.

Long. excl. tegm. ♀, 23 to 26 millim. Exp. tegm. 70 to 77 millim.

Hab.—Burma: Karen Hills (Bingham—coll. Dist.).

This beautiful genus is a great acquisition to our knowledge of the Eastern *Cicadidæ*. The type of coloration resembles that of *Toscena splendida*, Dist., which is also found in Burma, a country that has produced some of the handsomest insects to be found in the whole family. Burma is still likely to contain many Cicadan novelties.

Genus GRAPTOTETTIX.

Graptotettix, Stål, Hem. Afr. iv. p. 4 (1866); Atkins. J. A. S. Beng. vol. liii. p. 221 (1885); *ibid.* vol. lv. p. 156 (1886).

Body moderately long and robust. Head, including eyes, narrower than the base of mesonotum: ocelli about equally wide apart from eyes as from each other; rostrum extending to about the intermediate coxæ. Pronotum a little narrower in front than behind, the posterior lateral angles ampliated, rounded, and somewhat posteriorly produced. Anterior femora robustly spined. Tympana completely exposed and

uncovered; opercula short, broad, and basal. Tegmina more or less opaque; apical areas usually ten, sometimes only nine; basal cell much longer than broad. Wings more or less transparent.

This genus is variable in the number of the apical cells to the tegmina, which were described by Stål as amounting to ten, but in some specimens of *G. guttatus* in my own collection there are only nine.

1. Graptotettix guttatus. (Tab. III., figs. 21, *a*, *b*.)

Graptotettix guttatus, Stål, Berl. Ent. Zeit. x. p. 170 (1866); Atkins. J. A. S. Beng. vol. liii. p. 221, n. 32 (1885).

Head, pronotum and mesonotum black; front of head, ocelli, and two large oblique spots—sometimes fused—on each lateral area of the pronotum, bright ochraceous; mesonotum with two small central obconical spots and two much larger lateral spots very obscurely ochraceous. Abdomen above dull castaneous,—in some specimens, as the female here figured,—illuminated with ochraceous. Head beneath, sternum and legs black; face bright ochraceous; opercula and abdomen castaneous.

Tegmina opaquely pale fuscous; the venation, costal membrane and postcostal area brownish-ochraceous; the base narrowly blackish. Wings bronzy, shining, and semi-opaque.

Long. excl. tegm. ♂, 30 millim.; ♀, 27 millim. Exp. tegm. ♂ and ♀, 70 to 73 millim.

Hab.—Continental India: Sikkim (Calc. Mus.); Naga Hills (coll. Dist.). China* (coll. Signoret).

Var. a.—Tegmina with pale streaks in the apical areas; abdomen ochraceous.

Hab.—Continental India: Naga Hills (coll. Dist.).

This species, as above remarked, also varies in the number of the apical cells to the tegmina, which in some cases are only nine.

2. Graptotettix thoracicus.

Graptotettix thoracica, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. ix. p. 315 (1892).

♂. Head, pronotum and mesonotum bright pale ochraceous; abdomen pale sanguineous. Eyes fuscous. Pronotum with the posterior, lateral, and anterior (as far as behind eyes only) margins castaneous and with two narrow, jet-black central, discal, curved fasciæ. Mesonotum with four pale castaneous obconical fasciæ, the central pair smallest. Abdomen above ochraceous near base. Body beneath and legs sanguineous; head beneath, anterior coxæ and lateral margins of sternum ochraceous; spots on coxæ black. (In the specimen described the apex of one posterior femur and its tibia is almost black; the other posterior leg is uniformly sanguineous.)

Tegmina and wings pale hyaline, more or less completely tinged with castaneous (in the specimen described more so on one tegmina and wing than on the other), the venation ochraceous or castaneous.

Long. excl. tegm. ♂, 28 millim. Exp. tegm. 75 millim.

Hab.—Burma: Momeit (Doherty—coll. Dist.).

This species is distinguished from *G. guttatus*, Stål, by the totally different colour and markings of the pronotum and the colour of the head; the front of the head is also more angulated, and the face more angularly tumid.

* This habitat must be taken conditionally. My late friend Dr. Signoret submitted a specimen thus localised to me for identification; but some of his specimens had erroneous habitats, and a late visit to the Museum at Vienna has confirmed that opinion.

Genus HUECHYS.

Huechys, Amyot & Serville, Hist. des Hém. p. 464, n. 363 (1843); Stål, Hem. Afr. iv. p. 4 (1866); Atkins. J. A. S. Beng. vol. lv. p. 153 (1886).

Body of moderate size, somewhat slender. Head, including eyes, about equal in width to base of mesonotum. Ocelli about equally wide apart from eyes as from each other; rostrum extending to or a little beyond the intermediate coxæ. Pronotum with the lateral margins more or less convex, narrower in front than behind, the posterior lateral angles in some species distinctly posteriorly produced. Anterior femora prominently spinous. Tympana completely exposed and uncovered. Opercula small. Face more or less longitudinally sulcated. Tegmina more or less opaquely coloured; apical areas eight (sometimes nine or ten); basal cell much longer than broad. Wings either transparent or infuscated and partly opaque.

This genus is strictly confined to the limits of our fauna, and some of its species are not only widely distributed, but also very variable in their coloration. The rule holds throughout the Cicadidæ that all melanic species vary towards albinism, and *Huechys* is no exception to the rule. Guided by this experience, I have been able to group as varieties many forms which were incomprehensible under distinct specific names.

a. *Pronotum concolorous, almost invariably non-fasciated.*

1. Huechys sanguinea. (Tab. III., figs. 2, *a*, *b*.)

Cicada sanguinea, DeGeer, Mém. iii. p. 221, n. 18, t. 33, f. 17 (1773); Gmel. Ed. Syst. Nat. i. 3, p. 2098, n. 81 (1782).

Tettigonia sanguinolenta, Fabr. Syst. Ent. p. 681, n. 15 (1775); Sp. Ins. ii. p. 321, n. 19 (1781); Mant. Ins. ii. p. 267, n. 24 (1787); Ent. Syst. iv. p. 25, n. 30 (1794); Syst. Rhyng. p. 42, n. 46 (1803).

Cicada sanguinolenta, Oliv. Enc. Méth. v. p. 756, n. 45 (1790); Germ. Thon. Arch. ii. p. 2, n. 25 (1830); Silb. Rev. Ent. ii. p. 75, n. 50 (1834); Blanch. Hist. Nat. Ins. iii. p. 165, n. 6 (1840–1); Guer. Mag. Zool. 1838, p. 76, n. 2, t. 237, f. 1.

Huechys sanguinea, Amy. & Serv. Hist. des Hém. p. 465, n. 1 (1843); Dist. J. A. S. Beng. vol. xlviii. p. 38 (1879); Ann. Mus. Civ. Genoa, ser. 2*a*, vol. vi. p. 454 (1888); Atkins. J. A. S. Beng. vol. liii. p. 218, n. 23 (1885); *ibid.* vol. lv. p. 154, n. 21 (1886).

Body and legs black; front and face to head, two large spots to mesonotum—sometimes fused and covering the whole disk—and the abdomen, sanguineous; base of abdomen narrowly black.

Tegmina black, opaque; wings shining fuscous, sometimes almost black, interior of anal area always paler.

Rostrum passing the intermediate coxæ: face moderately compressed, and very coarsely striate.

Long. excl. tegm. ♂ and ♀, 17 to 25 millim. Exp. tegm. 43 to 65 millim.

Hab. — Continental India: Sikkim (Calc. Mus. and coll. Dist.); Assam (Chennell – coll. Dist.); Calcutta (Stockh. and Calc. Mus.). Burma: Rangoon, Kakhien Hills (Fea—Genoa Mus.). Tenasserim: Thagata (Fea—Genoa Mus.). Malayan Archipelago, Sumatra: Solok, Silago, Rawas, Sidjoen djoeng, Loeboe gedang (Sumtr. Exped.—Leyd. Mus.); Ajer Manteior (Beccari—Genoa Mus.). Sumbawa (Van Lansberg—Leyd. Mus.). Borneo: Lambas (Van Lansberg—Leyd. Mus.). Timor Laut (Leyd. Mus.). China* (Bruss. Mus.; Norris—coll. Dist.).

* According to Dr. Fumouze, "L'*Huechys sanguinea*, la *Cicada sanguinolenta* d'Olivier, est un insecte fort commun dans certaines provinces de la Chine, où on le recolte pour les besoins de la medecine. Au dire des auteurs qui ont etudié la matiere médicale chinoise, cet insecte passerait en Chine pour jouir de proprietes curatives et serait surtout employé dans le traitement de la rage. Sa valeur en tant que médicament anti-rabique est bien douteuse; mais son action sur les organes génito-urinaires parait être certaine, et c'est ce qui m'a engagé a rechercher si l'*Huechys sanguinea*, ne renfermerait pas un principe actif particulier ou semblable à celui que contient la Cantharide. Ce que je peux dire dès a présent, c'est que, par

Var. a. **philæmata.** (Tab. III., figs. 5, *a*, *b*.)

Tettigonia philæmata, Fabr. Syst. Rhyng. p. 42, n. 47 (1803).
Cicada philæmata, Germ. Thon. Arch. ii. p. 2, n. 26 (1830); Silb. Rev. Ent. ii. p. 75, n. 52 (1834); Burm. Handb. Ent. ii. 1, p. 180, n. 2 (1835).
Huechys philæmata, Amy. & Serv. Hist. des Hém. p. 465, n. 2 (1843); Atkins. J. A. S. Beng. vol. liii. p. 218, n. 22 (1885); *ibid.*, vol. lv. p. 153, n. 20 (1886).
Stoll. Cig. f. 62.

Differs from the typical form of the species by having the tegmina fuscous,—not black, and by the wings being paler fuscous and more hyaline.

Hab.—Burma: Carin Gheeù and Catein Cauri (Fea—Genoa Mus.). China (Bruss. Mus.).

Var. b.

Tegmina black, with greyish-white streaks in the apical areas, and sometimes also in ulnar areas. Wings blackish, with greyish-white streaks.

Hab.—Continental India: Assam (Chennell—coll. Dist.). Malayan Archipelago, Sumatra (coll. Dist.).

Var. c. **testacea.**

Tettigonia testacea, Fabr. Mant. Ins. ii. p. 267, n. 23 (1787); Ent. Syst. iv. p. 24, n. 29 (1794); Syst. Rhyng. p. 42, n. 45 (1803).
Cicada testacea, Oliv. Enc. Méth. v. p. 756, n. 43 (1790); Gmel. Ed. Syst. Nat. i. 3, p. 2098, n. 82 (1782); Germ. Thon. Arch. ii. p. 3, n. 27 (1830); Guer. Mag. Zool. 1838, p. 78, n. 6.
Huechys testacea, Atkins. J. A. S. Beng. vol. liii. p. 219, n. 24 (1885).
Stoll. Cig. fig. 41, *e*.

Mesonotum unspotted, uniformly black. Tegmina more or less streaked with greyish-white.

Hab.—Continental India: Calcutta (coll. Dist.).

I do not possess, nor have I seen, a single specimen of *H. sanguinea* from the island of Java,* where it is apparently replaced by the following species.

2. Huechys incarnata. (Tab. III., figs. 4, *a*, *b*.)

Huechys incarnata, Germar, Silb. Rev. Ent. ii. p. 75, n. 51 (1834).
Cicada sanguinolenta, Brull. Hist. Nat. Hém. ii. t. 5, f. 2 (1835); Guer. Mag. de Zool. 1838, p. 77, n. 3.
Cicada Germari, Guer. Mag. de Zool. 1838, p. 78, n. 4, t. 237, f. 2.
Huechys incarnata, Amy. & Serv. Hist. des Hém. p. 465, n. 3 (1843).

Body and legs black; front and face to head, two large spots on mesonotum, and the abdomen, sanguineous; anterior margin to and a small spot at base of front, a central fascia to face—narrowing towards apex—and extreme base of abdomen, black.

Tegmina greyish-white, with the venation, basal cell, costal membrane, and postcostal area, dark fuscous. Wings fuscous, streaked with greyish-white.

The rostrum reaches the intermediate coxæ; the face is somewhat compressed and very coarsely striate.

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les procédés employés pour extraire la cantharidine de la Cantharide, je n'ai obtenu aucun resultat; peut-être serai-je plus heureux par la suite. Mes premières recherches n'ont pas été cependant complètement infructueuses, car je suis parvenu à extraire de l'*Huechys sanguinea* la matière qui donne aux tégnments abdominaux de cet insecte leur magnifique couleur jaune-orange. Cette matière, que j'appellerai le *rouge d'Huechys*, est d'une couleur exactement semblable à celle de l'abdomen de l'animal, comme vous pouvez le constater au moyen de l'échantillon que je fais passer sous vos yeux. L'*Huechys sanguinea* renferme aussi, mais en plus petite quantité, une autre matière colorante jaune très hygrométrique."—*Bull. Soc. Ent. Fr.* 1888, pp. xxii., xxiii.

* Walker records a specimen from Java presented by himself to the British Museum (List Hom. i. p. 251, 1850), but this author was so often incorrect as to render it unsafe to make any fresh conclusion on his information alone.

Long. excl. tegm. ♂ and ♀, 19 to 25 millim. Exp. tegm. 48 to 65 millim.

Hab.—Malayan Archipelago, Sumatra: Tapanoeli (Van Lansberg—Leyd. Mus.). Java (Piepers*—Leyd. Mus.); Kederi (Von Hügel—coll. Dist.); Pekalonga, Samarang (Van Lansberg—Bruss. Mus.); Buitenzorg (Ferrari—Genoa Mus.). Amboina: Suyckerbuyk (Bruss. Mus.).

Var. a.

♀. Head and mesonotum totally black; abdomen with a central dorsal blackish fascia; wings very dark shining fuscous.

Hab.—Malayan Archipelago, Java: Tengar Mts. (coll. Dist.).

This is an insular species, is very common in Java, but not found on the adjacent continent. For the variety described above I am indebted to Dr. Bergroth of Finland.

3. Huechys phœnicura. (Tab. III., figs. 6, *a*, *b*.)

Cicada phœnicura, Germar, Silb. Rev. Ent. ii. p. 76, n. 53 (1834).

Huechys phœnicura, Stål, Öft. Vet.-Ak. Förh. 1870, p. 707, n. 1; Atkins. J. A. S. Beng. vol. liii. p. 219, n. 25 (1885).

Huechys suffusa, Dist. Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 291 (1888).

♂. Body and legs black; front and face to head, two large spots to mesonotum and the abdomen sanguineous; base of abdomen narrowly black.

Tegmina blackish, greyish-white beyond the ulnar areas; lower apical area margined with blackish, upper ulnar area sometimes greyish-white. Wings very pale fuscous, the base and venation blackish.

The rostrum slightly passes the intermediate coxæ; the face is moderately compressed, but less strongly striate than in the two preceding species.

Long. excl. tegm. ♂, 21 millim. Exp. tegm. 53 millim.

Hab.—Malayan Archipelago: Java (coll. Dist.). Philippine Isles (Semper—Stockh. Mus.).

According to Mr. Atkinson this species is "reported from India, Sikkim,"† but at present it seems extremely doubtful that it is found on the Continent at all. I certainly have seen it in none of the many collections examined from India, Burma, Tenasserim, or the Malay Peninsula, and it is probably an insular species. I have a specimen labelled "Java," and it is undoubtedly found in the Philippines. It is at present very rare in collections.

4. Huechys vidua. (Tab. III., figs. 9, *a*, *b*.)

Cicada (*Huechys*) *vidua*, White, Ann. Nat. Hist. vol. xvii. p. 332 (1846).

♀. Body and legs black; front and face to head and two large spots to mesonotum bright pale shining ochraceous; lateral areas of anal appendage and disk of abdomen beneath sanguineous.

Tegmina dull, opaque, black; wings pale hyaline with bluish reflexions, the venation blackish, and the apical, outer and inner margins narrowly pale fuscous.

The face is prominently longitudinally sulcate, and the transverse striations are profound and broadly separated.

The rostrum reaches the intermediate coxæ.

Long. excl. tegm. ♀, 23 millim. Exp. tegm. 53 millim.

Hab.—Malay Peninsula: Province Wellesley (coll. Dist.).

*Attached to a Javanese specimen thus labelled, in the Leyden Museum, is a ticket, stating, "according to Mr. Piepers, this species attacks butterflies on the wing." This information requires much corroboration.

† J. A. S. Beng. vol. liii. p. 219 (1885).

Var. a.

The late Mr. Adam White wrote, "In one specimen in the Museum (a female) are two or three lighter streaks on the elytra not far from the posterior margin."

The proper habitat of this species was quite unknown to its describer, who gave it as "New Holland?" I, however, captured a single specimen myself when in the Malay Peninsula in 1868, and, beyond the unlocalised specimens in the British Museum, have not seen another example.

5. Huechys fusca, n. sp. (Tab. III., figs. 7, *a*, *b*.)

♂. Body and legs black; front and face to head, and two large spots on mesonotum, either orange or pale yellow; abdomen dark orange-yellow, narrowly black at base; face sometimes with a small black spot at base.

Tegmina pale fuscous; the venation, basal cell and costal membrane blackish. Wings very pale fuscous, semi-hyaline.

The rostrum reaches the intermediate coxæ; the striations to the face are coarse and profound.

Long. excl. tegm. ♂ and ♀, 16 to 20 millim. Exp. tegm. 45 to 54 millim.

Hab.—Malay Peninsula: Perak (Doherty—coll. Dist.). Malay Archipelago, Sumatra (coll. Dist.). Borneo: Sarawak (Beccari—Genoa Mus.); Kina Balu Mt. (Whitehead—coll. Dist.). Sulu Isles: Jolo (coll. Dist.). Philippine Isles: Palawan (coll. Dist.).

Var. a.

Altogether duller in hue; the abdomen testaceous, with the posterior segmental margins orange-yellow; tegmina darker and more opaque.

Hab.—Malayan Archipelago: Borneo, Kina Balu Mt. (Whitehead—coll. Dist.).

In this difficult genus, where variation reigns supreme, and differential characters of a structural nature are so seldom to be found, *H. fusca* may be superficially recognised by the yellow face and front, yellow spots to mesonotum, colour of the abdomen, and fuscous tegmina. The pronotum is also without any fasciate markings.

6. Huechys pingenda. (Tab. III., figs. 1, *a*, *b*.)

Huechys pingenda, Distant, Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 519 (1888).

♂. Head and thorax above black; the front of the head, the ocelli, and two large spots—situate on the basal margins of the mesonotum—bright ochraceous. Abdomen above dull reddish, the base and dorsal area dull pitchy-black. Head and thorax beneath, the legs, rostrum, and opercula, pitchy-black; the face—excluding basal margin—bright ochraceous. Abdomen beneath dull reddish, with transverse pitchy segmental fasciæ and the apical half of anal appendage black.

Tegmina opaque milky-white, slightly suffused with pale fuscous on the apical area; the venation, costal membrane, greater portion of basal cell, and a very small basal patch, pitchy black. Wings pale smoky hyaline, the venation pitchy.

The face is robust, laterally compressed, the transverse striations distinct on basal half, and the longitudinal sulcation broadening towards apex; the rostrum reaches the intermediate coxæ.

Long. excl. tegm. ♂, 24 millim. Exp. tegm. 58 millim.

Hab.—Malayan Archipelago: Sumatra, Mt. Singalang (O. Beccari—Genoa Mus. and coll. Dist.).

The more robust body also distinguishes this and the following species.

7. Huechys celebensis. (Tab. III., figs. 8, *a*, *b*.)

Huechys celebensis, Distant, Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 519 (1888).

♂. Closely allied to *H. pingenda*, Dist., but differing by the much darker hue of the tegmina and by the greater length of the second apical area to same, which has its base much nearer to the base of first area than in *H. pingenda*; a waved fuscous line or pseudo-vein also crosses tegmina from base of second ulnar area to base of lower apical area; the wings are bronzy-brown, with the venation black. The abdomen above is pitchy-black, with the segmental margins and a dorsal line dull reddish; the abdomen beneath is pale dull reddish, with an obscure central series of dull pitchy spots.

Long. excl. tegm. ♂, 23 millim. Exp. tegm. 60 millim.

Hab.—Malayan Archipelago, S.E. Celebes: Kandari (O. Beccari—Genoa Mus. and coll. Dist.).

b. *Pronotum with a distinct central fascia.*

8. Huechys thoracica. (Tab. III., figs. 3, *a*, *b*.)

Huechys thoracica, Distant, J. A. S. Beng. vol. xlviii. p. 39, t. 11, f. 3 (1879); Atkins. J. A. S. Beng. vol. liii. p. 219, n. 27 (1885).

♀. Body and legs black; front and face to head, a central hour-glass-shaped fascia to pronotum, a central and two lateral spots to mesonotum, abdomen, and sternum, sanguineous; margins of front, a broad basal fascia to face, and some sternal spots, black.

Tegmina pale fuscous and semi-opaque; wings semi-hyaline, slightly tinged with fuscous, the venation dark fuscous.

The rostrum just passes the intermediate coxæ; the face is large, somewhat compressed, and very coarsely striate.

Long. excl. tegm. ♀, 17 to 20 millim. Exp. tegm. 39 to 50 millim.

Hab.—Burma: Karen Hills and Ruby Mines (Doherty—coll. Dist.). Tenasserim (Limborg—Calc. Mus.); Myitta (Doherty—coll. Dist.).

This is both a well-marked and apparently constant species.

9. Huechys lutulenta, n. sp. (Tab. XIV., figs. 1, *a*, *b*.)

♀. Head and thorax above and beneath dull ochraceous; vertical area of head, a central hour-glass-shaped fascia, and the margins of pronotum, castaneous; mesonotum with two small obconical spots on anterior margin, with a smaller and more obscure spot on each side, the cruciform elevation,—excluding apices,—three spots in front of same,—the central one largest,—and a spot on each side, castaneous. Abdomen brownish-ochraceous; legs castaneous.

Tegmina pale uniform brownish, opaque; basal cell and a spot beneath it fuscous; wings pale hyaline, sometimes with violaceous reflexions, and with a basal fuscous streak on inner margin.

Rostrum reaching the intermediate coxæ; face large, somewhat compressed, coarsely striate, and longitudinally sulcated for about half its length.

Long. excl. tegm. ♀, 17 to 21 millim. Exp. tegm. 46 to 48 millim.

Hab.—Malayan Archipelago: Borneo, Kina Balu Mt. (Whitehead—coll. Dist.).

I possess two female specimens of this distinctly marked and coloured species.

10. Huechys dohertyi, n. sp. (Tab. XIV., figs. 2, *a*, *b*.)

Head, thorax and abdomen dull ochraceous; base of face, anterior margin of front and whole vertex of head, black. Pronotum with a central hour-glass-shaped fascia, the fissures and the margins black. Mesonotum with four central obconical spots,—the two central spots smallest,—the cruciform elevation, and a central angulated spot in front of same, blackish. Abdomen, both above and beneath, with a more or less distinct marginal series of blackish spots, blackish segmental fasciæ, and two blackish central longitudinal fasciæ to anal appendage. Legs black.

Tegmina pale brownish; the venation, costal membrane and postcostal area darker in hue. Wings pale hyaline; the venation and a basal streak on inner margin fuscous.

The rostrum reaches the intermediate coxæ; the face is more or less longitudinally sulcated for its whole length, and coarsely transversely striate.

Long. excl. tegm. ♂ and ♀, 18 to 21 millim. Exp. tegm. 48 to 52 millim.

Hab.—Malayan Archipelago: S.E. Borneo (coll. Dist.).

Var. a.

Tegmina with obscure greyish-white streaks in all the areas.

Hab.—Malayan Archipelago: S.E. Borneo (Doherty—coll. Dist.).

Apart from the very distinct colour markings, this species may be distinguished from the preceding by the more longitudinally sulcated face.

11. Huechys chryselectra. (Tab. XIV., figs. 3, *a*, *b*.)

Huechys chryselectra, Distant, Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 520 (1888).

♂. Head and thorax above ochraceous; vertex of head somewhat darker in hue; a large black spot on each lateral area of the pronotum. Abdomen above pale castaneous, the segmental margins very narrowly ochraceous. Head beneath, sternum, legs, and opercula, dull ochraceous; head, excluding face and the coxæ, castaneous. Abdomen beneath as above.

Tegmina pale brown and opaque, the venation concolorous; wings very pale brownish and semi-hyaline.

The face has the central sulcation very distinct, but not extending beyond two-thirds of its length.

Long. excl. tegm. ♂, 18 millim. Exp. tegm. 44 millim.

Hab.—Malayan Archipelago: Borneo. Sarawak (Doria and Beccari—Genoa Mus.).

12. Huechys hæmatica. (Tab. XIV., figs. 4, *a*, *b*.)

Huechys hæmatica, Distant, Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 454, t. iv. f. 5, *a*, *b* (1888).

♀. Body above sanguineous; pronotum with a large oblique black spot on each lateral area; eyes dull ochraceous. Body beneath sanguineous; legs castaneous.

Tegmina pale greyish-brown, with darker suffusions along the venation; base narrowly sanguineous. Wings pale bluish-grey, with darker suffusions along the venation; base narrowly sanguineous.

The rostrum reaches the posterior coxæ; the face is much compressed, with a slight narrow central longitudinal sulcation.

Long. excl. tegm. ♀, 20 millim. Exp. tegm. 45 millim.

Hab.—Tenasserim: Mt. Mooleyit, 600–1200 m. (Fea—Genoa Mus.).

Genus SCIEROPTERA.

Scieroptera, Stål, Hem. Afr. vol. iv. p. 4 (1866); Atkins. J. A. S. Beng. vol. liii. p. 220 (1885); *ibid.* vol. lv. p. 155 (1886).

General character of *Huechys*, but differing from that genus by not having the face longitudinally sulcated.

Scieroptera is quite confined to our faunistic area, and is distributed throughout Continental India, Burma, Tenasserim, and onwards through the Malayan Archipelago.

1. Scieroptera splendidula. (Tab. XIV., figs. 5, *a*, *b*.)

Tettigonia splendidula, Fabricius, Syst. Ent. p. 681 (1775); Sp. Ins. ii. p. 321, n. 20 (1781); Mant. Ins. ii. p. 267, n. 25 (1787); Syst. Rhyng. p. 42, n. 49 (1803).

Cicada splendidula, Gmel. Ed. Syst. Nat. i. 3, p. 2098, n. 83 (1782); Oliv. Enc. Méth. v. p. 756, n. 47 (1790); Germ. Thon. Arch. ii. p. 45, n. 102 (1830); Guér. Mag. Zool. p. 79, n. 9 (1838); Westw. in Donov. Ins. China, t. 16, f. 4 (1842).

Scieroptera splendidula, Stål, Berl. Ent. Zeit. x. p. 169 (1866); Atkins. J. A. S. Beng. vol. liii. p. 220, n. 30 (1885); *ibid.* vol. lv. p. 155, n. 25 (1886); Dist. Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 455 (1888).

Body black; margins and a central fascia to pronotum, margins and a central fascia to mesonotum, ochraceous; cruciform elevation ochraceous, its central area blackish; lateral margins of sternum ochraceous. Abdomen and femora—excluding apices—reddish-ochraceous; abdomen frequently with a central dorsal longitudinal black macular fascia.

Tegmina very dark fuscous; wings hyaline, slightly tinged with ochraceous.

Long. excl. tegm. ♂ and ♀, 12 to 18 millim. Exp. tegm. 35 to 44 millim.

Hab.—Continental India: Margherita in Assam (Doherty—coll. Dist.). Tenasserim (coll. Dist.). Malayan Archipelago, Sumatra (Boek—coll. Dist.). China (Westwood).

Var. a, cuprea.

Huechys cuprea, Walk. Journ. Linn. Soc. Zool. vol. x. p. 95 (1867).

Costal membrane of the tegmina ochraceous.

Long. excl. tegm. 15 to 20 millim. Exp. tegm. 32 to 53 millim.

Hab.—Continental India: Sikkim and Khasi Hills (coll. Dist.). Burma: Momeit (Doherty—coll. Dist.) Malayan Archipelago, Borneo: Kina Balu Mt. (Whitehead—coll. Dist.). Celebes: Minahassa (coll. Dist.); Tondano (Brit. Mus.).

Var. b, trabeata.

Cicada trabeata, Germ. Thon. Archiv. ii. p. 3 (1830); Guér. Mag. Zool. p. 78, n. 7 (1838).

Huechys trabeata, Atkins. J. A. S. Beng. vol. liii. p. 219, n. 28 (1885).

Tegmina paler than in *var.* a; ground colour of pronotum purplish in place of black; front of head marked with purplish.

Hab.—Malayan Archipelago, Java (Forbes—coll. Dist.).

Var. c.

Tegmina as in *var.* a, but legs and face uniformly ochraceous.

Hab.—Continental India: "North India" (*sic*) (coll. Dist.).

Var. d.

As *var.* c, but the tibiæ and tarsi blackish; head with the margins of front and the lateral areas of vertex ochraceous.

Hab.—Burma: Momeit (Doherty—coll. Dist.).

This is a most variable species, of wide distribution. It is probable that none of the varieties are of a truly local character; the only one that appears to be so (according to present knowledge) is the Javan *trabeata*, Germ.

2. Scieroptera crocea. (Tab. XIV., figs. 6, *a*, *b*.)

Cicada crocea, Guérin, Voy. Favorite, v. p. 159, t. 45, f. 3 (1829); Voy. Coquille, Zool. ii. p. 182 (1830); Mag. Zool. Ins. p. 79, n. 8, t. 237, f. 3 (1839).

Scieroptera crocea, Stål, Berl. Ent. Zeit. x. p. 169 (1866); Atkins. J. A. S. Beng. vol. liii. p. 220, n. 29 (1885); *ibid.* vol. lv. p. 155, n. 24 (1886).

Closely allied to the preceding species, *S. splendidula*, of which it may probably prove but another variety. Differs by the tegmina being semi-hyaline, and very pale ochraceous, with the venation darker ochraceous. The face is black, with the margins ochraceous.

Long. excl. tegm. ♂ and ♀, 15 to 20 millim. Exp. tegm. 40 to 57 millim.

Hab.—Continental India: Bombay (Leith—coll. Dist.). Malayan Archipelago, Sumatra (Ludeking—Leyd. Mus.), Toba-reis, Tandjong, Morawa, Serdang (Hagen—Leyd. Mus.), Soekadam, Lampong (Van Hasselt—Leyd. Mus.). Java: (Van Lansberg—Leyd. Mus.). Borneo: Sarawak (Genoa Mus.).

Var. a.

Face altogether pale castaneous; legs ochraceous.

Hab.—Malayan Archipelago, Java (coll. Dist.).

3. Scieroptera fumigata. (Tab. XIV., fig. 7.)

Hucchys fumigata, Stål, Öfv. Vet.-Ak. Förh. 1854, p. 244 (1854).

Scieroptera fumigata, Stål, Berl. Ent. Zeit. x. p. 169 (1866); Atkins. J. A. S. Beng. vol. liii. p. 220, n. 31 (1885).

Of this species I have figured a typical specimen in the Stockholm Museum, and append a copy of the original description of Stål.

"Capite, thorace scutelloque nigris horum marginibus lateralibus, maculisque 2 oblongis, flavis, hemelytris fusco-vinaceis, costa nervisque dilute flavo-testaceis; alis dilute vinaceo-hyalinis; abdomine femoribusque testaceis, illo dorso nigricante tibiisque tarsisque nigro-piceis.

"Long corp. 12; exp. tegm. 28 mill."

Hab.—Continental India: "Ind. Orient." (*sic.*) (Stockh. Mus.), North Bengal (coll. Dist.), Margherita in Assam (Doherty—coll. Dist.).

Genus MOGANNIA.

Mogannia, Amyot & Serville, Hist. des Hém. p. 467, n. 366 (1843); Stål, Hem. Afr. vol. iv. p. 5 (1866).

Cephaloxys, Sign. Ann. Soc. Ent. Fr. ser. 2, vol. v. p. 294 (1847).

Body short, broad, robust. Head, including eyes, a little broader than long, and narrower than the base of mesonotum, the front conically produced; ocelli about the same distance from the eyes as from

each other; face oblique or obliquely convex. Pronotum narrower in front than behind, the lateral margins non-ampliated and slightly oblique, the posterior lateral angles moderately reflexed and lobately rounded. Anterior femora spined or dentate. Tympana more or less completely exposed; opercula small, usually obliquely convex, and not quite covering the cavities. Tegmina with their basal halves usually more or less brilliantly coloured, sometimes opaque; the costal margin, before the centre, suberect; the basal cell long; apical areas eight in number, the first longer than the second.

This genus is again confined to the limits of our faunistic area, and hence all the described species are here enumerated. They somewhat resemble in appearance several of the smaller Sphingidæ.*

1. Mogannia viridis. (Tab. XIV., figs. 8, *a*, *b*.)

Cephaloxys viridis, Signoret, Ann. Soc. Ent. Fr. ser. 2, vol. v. p. 294 (1847); Stål, Öfv. Vet.-Ak. Förh. 1863, p. 483.

Cephaloxys rostrata, Walk. List Hom. i. p. 233, n. 4 (1850).

Body above pale green, inclining to ochraceous, or, in some specimens, reddish-ochraceous.

Tegmina and wings pale hyaline, the venation olivaceous or ochraceous (usually resembling the hue of the body); tegmina slightly suffused with greenish or ochraceous at base, the costal membrane generally reddish-ochraceous.

The face is obliquely concave, the base being prominently and conically produced; the rostrum about reaches the intermediate coxæ; the opercula are slender and oblique; the anterior femora beneath have two small but distinct spines near apex.

Long. excl. tegm. ♂ and ♀, 15 to 18 millim. Exp. tegm. 45 to 47 millim.

Hab.—Continental India: Mungpoo in Bengal (coll. Dist.): Naga Hills and Margherita in Assam (Doherty—coll. Dist.). Burma: Momeit (Doherty—coll. Dist.). Malay Peninsula: Perak (Doherty—coll. Dist.). Malayan Archipelago, Java (coll. Sign. and Brit. Mus.).

Of eleven specimens of this species now in my collection, only one belongs to the female sex.

2. Mogannia fulva. (Tab. XIV., figs. 9, *a*, *b*.)

Cephaloxys fulva, Walker, Journ. Linn. Soc. Zool. vol. x. p. 94, n. 29 (1867).

Closely allied to *M. viridis*, Sign., but differing by the front of the head, which is much less produced than in that species; the face is also wider, more compressed, and much less obliquely concave than in *M. viridis*. The opercula are more slender and wider apart.

The colour of the specimen before me and of that described by Walker is ochraceous, but probably fresh specimens are of a greenish hue.

Long. excl. tegm. ♂, 16 millim. Exp. tegm. 42 millim.

Hab.—Malayan Archipelago, New Guinea (coll. Dist.; Wallace—Brit. Mus.).

3. Mogannia obliqua. (Tab. XIV., figs. 10, *a*, *b*.)

Mogannia obliqua, Walker, List Hom. Suppl. p. 39 (1858); Atkins. J. A. S. Beng. vol. liii. p. 232, n. 87(1885); Dist. Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 455, n. 8 (1888).

♀. Head and pronotum above pale greenish or greenish-ochraceous; head with the apex of front and the basal area blackish. Pronotum with a central triangular blackish fascia. Mesonotum with a broad

* It was evidently species of this genus that were described in the late Dr. Stoliczka's collection as "might at a glance be mistaken for moths."—(V. Ball, 'Jungle Life in India,' p. 338).

central fascia constricted near the middle, black. Abdomen above ochraceous, sometimes greenish. Abdomen beneath more or less suffused with blackish. Legs castaneous, with the coxæ and femora streaked with blackish, or legs dark castaneous, with the intermediate and posterior tibiæ and tarsi pale greenish.

Tegmina pale hyaline, the costal membrane pale castaneous; an oblique transverse fuscous fascia from end of radial area to apex of lower ulnar area, where it is more or less irregularly continued along inner margin to base; basal cell and base slightly suffused with pale brilliant ochraceous or greenish. Wings pale hyaline; extreme base and lower basal margin of tegmina sanguineous.

The face is obliquely concave; the rostrum just reaches the intermediate coxæ; the anterior femora in the female are not distinctly spined.

Long. excl. tegm. ♀, 15 to 18 millim. Exp. tegm. 45 to 50 millim.

Hab.—Continental India: Sikkim (Calc. Mus.); Assam (Chennell—coll. Dist.); Naga Hills and Margherita (Doherty—coll. Dist.); Mungpoo in Bengal (coll. Dist.). Burma: Momeit (Doherty—coll. Dist.); Rangoon and Charin Cheba (Fea—Genoa Mus.). Malayan Archipelago, Java (Brit. Mus.).

Of thirteen species now in my own collection all belong to the female sex, and I am unable to figure or describe the opercula of the male.

4. Mogannia doriæ. (Tab. XIV., figs. 11, *a*, *b*.)

Mogannia doriæ, Distant, Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 520 (1888).

♀. Body above shining brownish-ochraceous. Head with the anterior margins pitchy, the basal area castaneous. Pronotum with the anterior and posterior margins very pale ochraceous, and with a large castaneous patch on each lateral area. Mesonotum pale ochraceous, with two central and contiguous obconical pitchy spots at anterior margin, from which a similarly coloured linear fascia extends to base, where it is widened in front of the basal cruciform elevation, and with a wide castaneous fascia, narrowed posteriorly, on each lateral area. Abdomen above brownish-ochraceous, with two pale pilose spots on each side near base, and the margin of the penultimate segment also palely pilose. Body beneath brownish-ochraceous; the face, anterior femora and tibiæ, intermediate and posterior femora, rostrum, and meso- and metasternums, castaneous; intermediate and posterior tibiæ and tarsi pale ochraceous. Abdomen beneath as above.

Tegmina and wings pale hyaline; the first with the basal third of venation ochraceous, remaining two-thirds fuscous; the costal membrane castaneous; wings with the venation fuscous, ochraceous at basal area.

The rostrum reaches the intermediate coxæ; the face is extremely pointed and conical at base.

Long. excl. tegm. ♀, 14 millim. Exp. tegm. 40 millim.

Hab.—Malayan Archipelago, Borneo, Sarawak: (Doria and Beccari—Genoa Mus.).

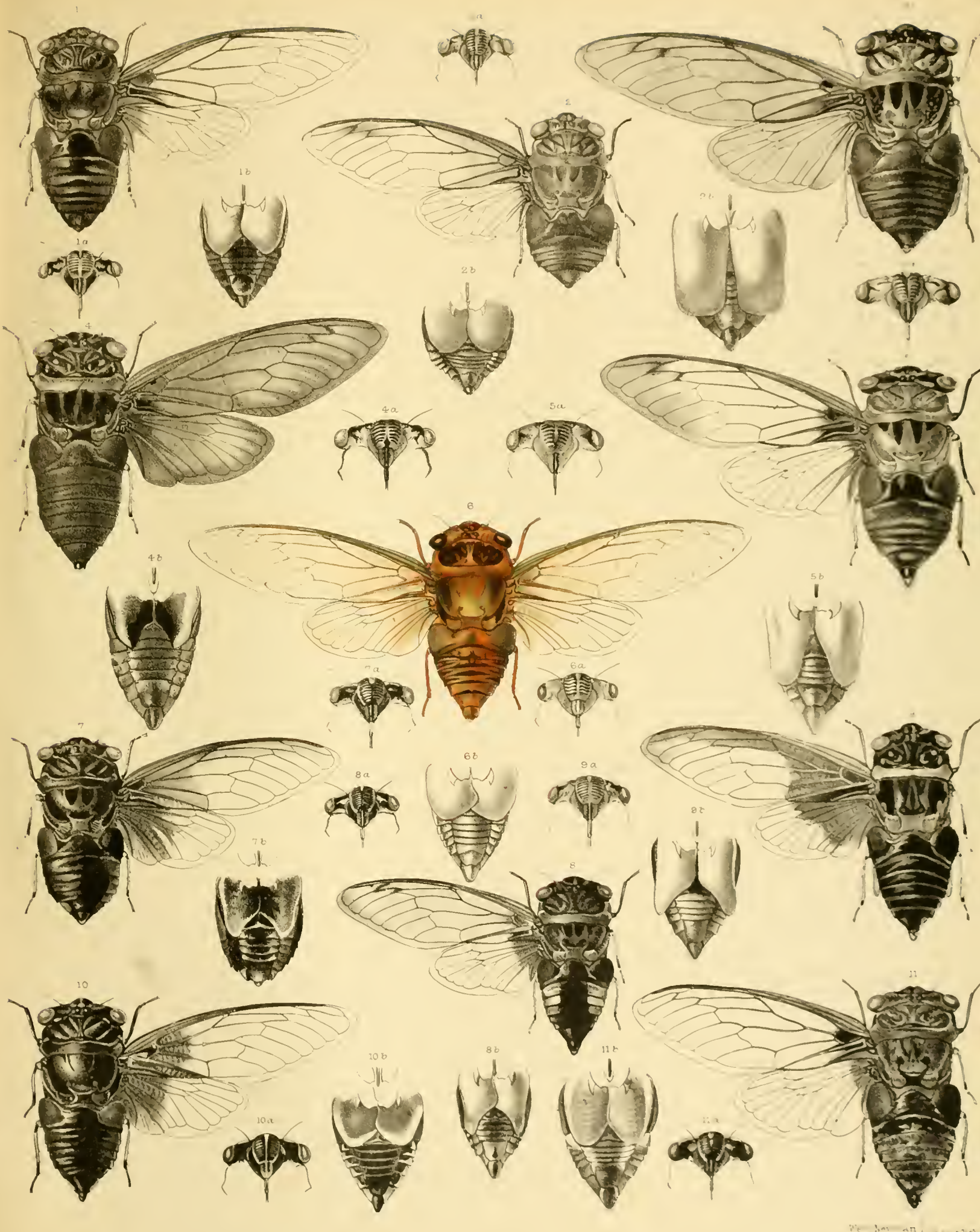
5. Mogannia sesioides. (Tab. XIV., figs. 12, *a*, *b*.)

Mogannia sesioides, Walker, Journ. Linn. Soc. Zool. vol. x. p. 95, n. 30 (1867).

Body above brownish-ochraceous; mesonotum either totally ochraceous, or with the lateral margins and basal cruciform elevation ochraceous; posterior margin of pronotum and posterior segmental margins ochraceous. Body beneath, and intermediate and posterior legs, pale ochraceous; face, lateral margins of sternum, and anterior legs, pale castaneous. (Lateral margins of abdomen in a female specimen now before me reddish-ochraceous, with fuscous spots.)

Tegmina and wings pale hyaline; tegmina with the costal membrane and postcostal area castaneous; basal third pale ochraceous, with a narrow darker outer margin.

1
1a
2a
2b
2
3a
3
4
4a
4b
5a
5b
6
6a
7b
8b
9a
9b
10a
10b
11
11a
12a
12b
13
13a
14a
14b
15a
15b


1
1a
1b
a
2
2a
2b
3
4
4a
4b
5a
5b
6
6a
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7
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9a
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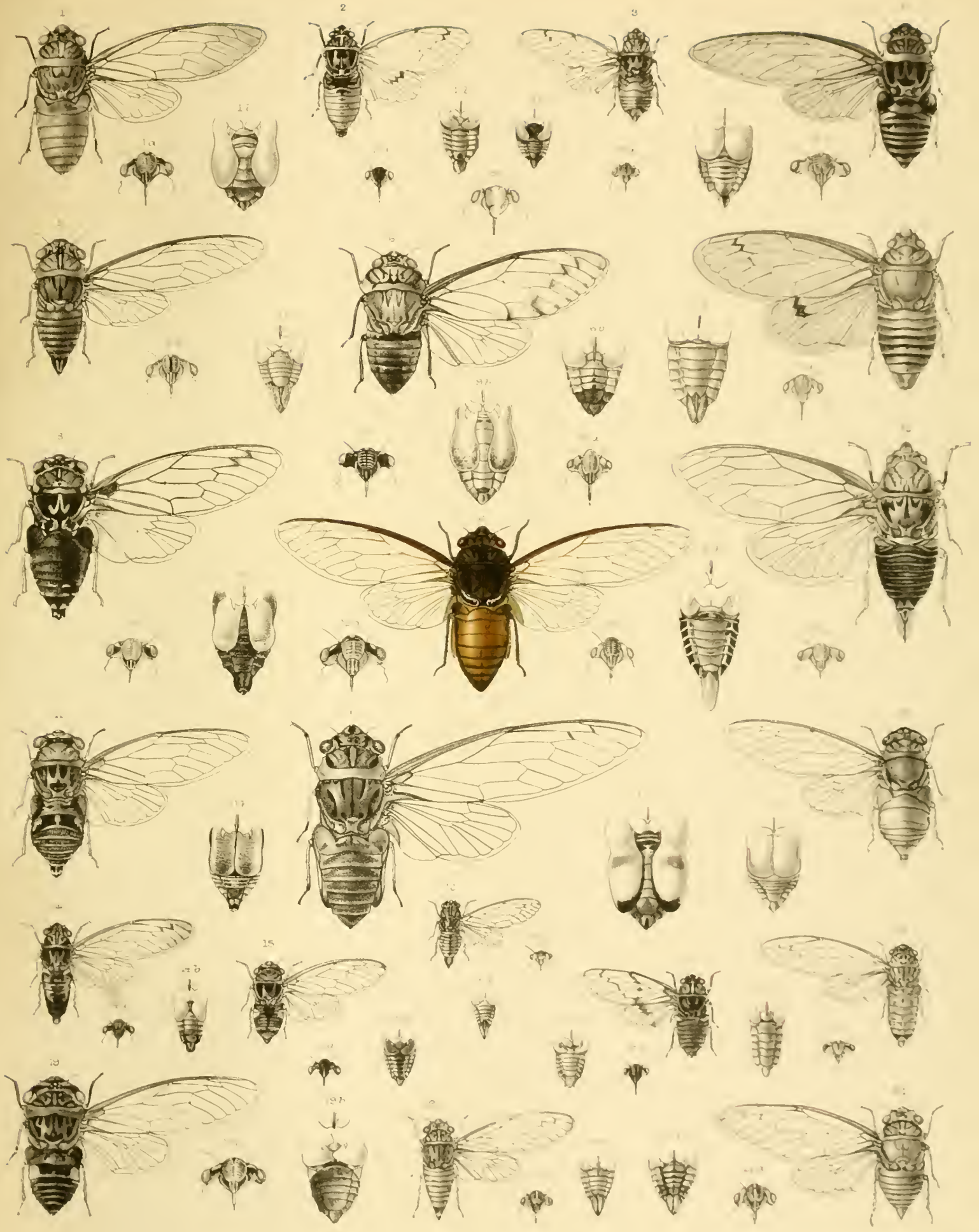
10
10a
10b
11
11a
11b



The front is long, slender, and very conically produced, and the face is very obliquely concave; the rostrum reaches the intermediate coxæ; the opercula are small, with their apices not very wide apart.

Long. excl. tegm. ♂ and ♀, 13 millim. Exp. tegm. 36 to 40 millim.

Hab.—Malayan Archipelago, Sumatra (coll. Dist.; Wallace—Brit. Mus.); Taju tanam (Beccari—Genoa Mus.); Fort de Kock, Alahan pandjang (Sumatr. Exped.—Leyden Mus.); Tapanveli (Van Lansberg—Leyden Mus.). Java (V. Eyndh—Leyden Mus.).

This small and distinct species appears to be very common in the island of Sumatra.

6. Mogannia hebes. (Tab. XIV., figs. 13, *a*, *b*.)

Cephaloxys hebes, Walker, List Hom. Suppl. p. 38 (1858).
Mogannia hebes, Stål, Öfv. Vet.-Ak. Förh. 1863, p. 483.
Mogannia spurcata, Walk. Ins. Saund. Hom. p. 27 (1858).

Body above greenish-ochraceous; pronotum with two large fuscous spots on disk—sometimes almost obsolete; mesonotum with four fuscous obconical spots, the central pair smallest; body beneath and legs pale greenish-ochraceous.

Tegmina and wings pale hyaline; tegmina with the veins greenish or ochraceous, the basal third more or less irregularly suffused with brilliant greenish-ochraceous.

Front moderately and conically produced, its apex obtuse; face oblique, scarcely concave; rostrum slightly passing the intermediate coxæ.

Long. excl. tegm. ♂, 15 millim. Exp. tegm. 36 millim.

Hab.—China (Fortune—Brit. Mus.). Formosa (coll. Dist.).

7. Mogannia nasalis. (Tab. XIV., figs. 14, *a*, *b*.)

♀ *Mogannia nasalis*, White, Ann. Nat. Hist. vol. xvii. p. 332 (1846).
Mogannia chinensis, Stål, Öfv., Vet.-Ak. Förh. 1865, p. 155, n. 3.

Body and legs pale castaneous and pilose; the eyes, posterior margin to pronotum, basal cruciform elevation to mesonotum, and the legs, somewhat paler in hue; extreme bases of the tibiæ, bases and apices of the tarsi, and coxal spots, blackish.

Tegmina and wings pale hyaline; tegmina, with the venation and costal membrane, ochraceous; a broad, obliquely transverse, ochraceous fascia crosses end of radial area to inner margin; the fascia is widened posteriorly, and more or less margined with fuscous; basal cell and extreme base ochraceous: wings with the venation fuscous.

Front strongly conically produced, the face obliquely concave; rostrum reaching the intermediate coxæ.

Long. excl. tegm. ♀, 15 millim. Exp. tegm. 40 millim.

Hab.—China (coll. Dist.); Hong Kong (Bowring—Brit. Mus.).

8. Mogannia cyanea. (Tab. XIV., figs. 15, *a*, *b*.)

Mogannia cyanea, Walker, List Hom. Suppl. p. 40 (1858).

Body and legs bright shining indigo-blue; eyes and the intermediate and posterior coxal margin dull ochraceous.

Tegmina pale hyaline, basal half shining ochraceous; a spot at end of radial area and the venation of apical portion fuscous; wings pale hyaline, the base narrowly ochraceous, the venation more or less ochraceous.

The head is very strongly pilose, with the front prominently and conically produced, the face moderately obliquely concave. The rostrum about reaches the intermediate coxæ.

Long. excl. tegm. 16 millim. Exp. tegm. 40 to 44 millim.

Hab.—Continental India: Naga Hills and Margherita in Assam (Doherty—coll. Dist.). Burma: Ruby Mines (Doherty—coll. Dist.). North China (Fortune—Brit. Mus.).

9. Mogannia effecta. (Tab. XIV., figs. 16, *a*, *b*.)

Mogannia effecta (Walk. MS.), Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. ix. p. 316 (1892).

Body and legs very dark bluish-black; tegmina with the basal half bluish-black, this colour broadly margined at base, costal area, claval area, and just before its extremity, with sanguineous.

Var. a.

The black area of tegmina streaked with pale fuscous, and the sanguineous margin to same very dull on costal area and almost absent on claval area.

Var. b.

The venation in black area of tegmina sanguineous and concolorous with the surrounding margins.

Long. excl. tegm. 17 to 19 millim. Exp. tegm. 42 to 48 millim.

Hab.—Continental India: Sikkim (Calc. Mus.); Naga Hills and Darjeeling (coll. Dist.). Malayan Archipelago, Sumatra: Tandjong, Morawa, Serdang (Hagen—Leyden Mus.).

This is a common North-Indian species, and of a very distinct pattern and coloration of tegmina.

10. Mogannia funebris.

Mogannia funebris, Stål, Öfv. Vet.-Ak. Förh. 1865, p. 155, n. 2; Atkins. J. A. S. Beng. vol. liii. p. 232, n. 89 (1885).

"Ænescente-nigra, fusco-pilosula; tegminibus alisque vitreis, illis ante medium nigris, areola basali asciaque ad apicem partis nigræ sordide lutescentibus."

"♀. Long. 19 millim. Exp. tegm. 46 millim."

Hab.—Continental India: Sylhet (Stockh. Mus.).

Var. a. (Tab. XIV., figs. 17, *a*, *b*.)

Dist. Ann. Mus. Civ. Genoa, ser. 2*a*, vol. vi. p. 455, t. iv. fig. 1, *a*, *b* (1888).

Agreeing generally with Stål's description, but without the luteous fascia "ad apicem partis nigræ."

Hab.—Burma: Bhamò (Fea—Genoa Mus.).

11. Mogannia conica. (Tab. XIV., figs. 18, *a*, *b*.)

Cicada conica, Germar, Thon. Arch. ii. 2, p. 39, n. 20 (1830).
Cephaloxys hemelytra, Sign. Ann. Soc. Ent. Fr. sér. 2, v. p. 295, n. 11 (1847).
Mogannia avicula, Walk. List Hom. i. p. 250, n. 5 (1850); Stål, Öfv. Vet.-Ak. Förh. 1870, p. 717, n. 1.
Mogannia recta, Walk. List Hom. Suppl. p. 39 (1858); Atkins. J. A. S. Beng. vol. liii. p. 232, n. 86 (1885).
Mogannia venutissima, Stål, Öfv. Vet.-Ak, Förh. 1865, p. 154, n. 1; Atkins. J. A. S. Beng. vol. liii. p. 232, n. 88 (1885).

♀. Body and legs black; above with a more or less defined and broken, longitudinal, dull ochraceous fascia, extending from front of head to apex of abdomen, and generally forming a more or less distinct hour-glass-shaped fascia on pronotum—in some specimens this fascia is very indistinct. Face and disk of abdomen beneath brownish-ochraceous; margins of coxæ and trochanters pale ochraceous.

Tegmina pale hyaline; the basal half fuscous and semi-opaque, extending from the end of radial area to a little beyond apex of interior ulnar area; costal membrane and base—narrowly—sanguineous; wings hyaline, with their base narrowly sanguineous.

Long. excl. tegm. ♀, 15 millim. Exp. tegm. 40 millim.

Hab.—Continental India: Hindostan, *sic* (Brit. Mus.). Malayan Archipelago, Sumatra: Tandjong, Morawa, Serdang (Hagen—Leyden Mus.). Philippine Isles (Cuming—Brit. Mus.; Semper—Stockh. Mus.).

Var. a, ignifera.

Mogannia ignifera, Walk. List Hom, i. p. 249, n. 4 (1850); *ibid.* iv. t. 2, f. 5 (1852).

Body and legs brownish-ochraceous; basal opaque coloration of tegmina pale ochraceous, margined with fuscous near costal margin.

Hab.—Malayan Archipelago, Java (Argent—Brit. Mus.; Forbes—coll. Dist.).

Var. b, indicans.

Mogannia indicans, Walk. List Hom. i. p. 249, n. 3 (1850); Dist. Ann. Mus. Civ. Genoa, ser. 2*a*, vol. vi. p. 455 (1888); Atkins. J. A. S. Beng. vol. liii. p. 232, n. 90 (1885).

Mogannia histrionica, Uhler, Proc. Ac. Nat. Soc. Philad. 1862, p. 283.

Body black or brownish; tegmina with the basal opaque portion containing a transverse, curved, ochraceous or reddish fascia a little before its apex.

Hab.—Continental India: Khasi Hills (Chennell—coll. Dist.); Margherita in Assam (Doherty—coll. Dist.). Tenasserim: Thagata (Fea—Genoa Mus.). China: Hong Kong (Bowring—Brit. Mus.).

Var. c, illustrata.

Mogannia illustrata, Amy. & Serv. Hist. des Hém. p. 467, n. 1, t. 9, f. 4 (1843).

Tegmina with the opaque basal area outwardly margined with fuscous, and with an apical ochraceous spot.

Hab.—Malayan Archipelago: Java (Amy. & Serv.).

Var. d.

The opaque coloration to tegmina uniformly reddish-ochraceous, occupying nearly the whole of lower apical area, and outwardly margined with fuscous; lateral and posterior margins of pronotum also ochraceous.

Hab.—Malayan Archipelago: Sumatra (coll. Dist.).

Genus GYMNOTYMPANA.

Gymnotympana, Stål, Ann. Soc. Ent. Fr. sér. 4, vol. i. p. 619 (1861).

"Corpus valde oblongum. Caput angustum, thoracis antico haud vel vix latius, fronte dimidium faciei occupante. Ocelli ab oculis haud vel paulo latius quam inter se distantes. Thorax marginibus lateralibus obtusis, postice subito ampliatis, limbo postico angustissimo. Tegmina areolis apicalibus octo, areola basali venas duas basi sat approximatas emittente; areola ad suturam clavi apicem versus angustiore; areola apicali prima secunda longiore. Tympana supra tota detecta, plicata. Opercula sat magna, convexa, basi late affixa. Femora antica subtus trispinosa."

Stal's original description of this very rare genus is here given. Only two species are known, both of which are found in the eastern islands of the Malayan Archipelago, and by the kind courtesy of Dr. Aurivillius, of the Stockholm Museum, I have been afforded an opportunity of figuring typical specimens of both of them. Of these species only one occurs

in our fauna as here restricted; but as the second is found only just to the east of New Guinea, and may be also found on that island, I have figured it, and added the description in a footnote.*

1. Gymnotympana stridens. (Tab. IX., figs. 16, *a*, *b*.)

Cicada stridens, Stål, Stett. Ent. Zeit. 1861, p. 152.
Gymnotympana stridens, Stål, Ann. Soc. Ent. Fr. sér. 4, vol. i. p. 619 (1861).
Dundubia significata, Walk. Journ. Linn. Soc. Zool. vol. x. p. 91, n. 18 (1867).

"Pallide griseo-flavescens, vittis quinque thoracis, femoribus anticis, apicibus tibiarum tarsorumque nec non abdomine fusco, hoc vacuo, fasciis vitreis utrimque ornato; operculis pallidis, extus infuscatis; tegminibus sordide hyalinis, fusco-venosis; thorace obsolete fusco-vittato, vittis duabus mediis abbreviatis."

"♂. Long. 18 millim. Exp. tegm. 50 millim."

"♂. Abdomine segmento secundo dorsali tympana libera relinquente; operculis apicem versus sensim angustatis, convexiusculis, apice rotundatis, thorace circiter dimidio longioribus, sensim divergentibus."

Hab.—Malayan Archipelago, Batchian (Stockh. Mus.; Wallace—Brit. Mus.). Morty (Wallace—Brit. Mus.).

Genus KAMALATA.

Kamalata, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 52 (1889).

Body very robust; the abdomen broad and moderately inflated, its lateral margins distinctly keeled beneath; the opercula are short, as in the genus *Pomponia*; the rostrum in the typical species here described about reaches the posterior coxæ, its second joint somewhat compressed laterally and dilated and deeply grooved above; anterior femora robust, and spined beneath at apex. Tegmina short, broad, about as long as the body; apical areas eight in number, first longer than the second, basal ulnar area very slightly ampliated anteriorly.

The principal characteristic of *Kamalata* is found in the vertex of the head, which is laminately produced on each side in front of the inner margin of the eyes in somewhat rectangular processes.

My whole knowledge of this genus is derived from a specimen contained in the Leyden Museum, and which is here figured.

1. Kamalata pantherina. (Tab. VIII., figs. 9, *a*, *b*.)

Kamalata pantherina, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. iii. p. 52 (1889).

Body above and beneath dark chocolate-brown; head with a longitudinal fascia to front, the margins and a transverse fascia to the ampliations in front of eyes, and a transverse spot at anterior margin of

* Gymnotympana strepitans. (Tab. IX., figs. 17, *a*, *b*.)

Cicada strepitans, Stål, Stett. Ent. Zeit. 1861, p. 151.
Gymnotympana strepitans, Stal, Ann. Soc. Ent. Fr. sér. 4, vol. i. p. 619 (1861).

"Pallide subolivaceo-flavescens; vittis sex thoracis, mediis duabus angustissimis, operculis apicem versus segmentoque dorsali apicali abdominis fuscis, hoc posterius pallido-quadrivittato; vittis quattuor scutelli fuscis pallido-conspersis, mediis abbreviatis; tegminibus sordide hyalinis testaceo-venosis; abdomine superne maculis pallidioribus adsperso."

"♂. Long. 23, exp. tegm. 60 millim."

"♂. Operculis valde convexis, ultra medium valde approximatis, extus recta, intus medio rotundatis, dein apicem versus oblique subtruncatis, thorace duplo longioribus. Abdomine pellucido, segmento dorsali secundo simplici, tympana libera relinquente."

Hab.—Malayan Archipelago: Woodlark Isl. (Stockh. Mus.).

vertex, behind which are two outwardly curved lineate spots ochraceous, eyes luteous; pronotum with a central black hour-glass-shaped fascia somewhat margined and streaked with ochraceous, the posterior margin also ochraceous; mesonotum with two longitudinal waved linear fasciæ, between which near anterior margin are two oblique spots, and the cruciform elevation, ochraceous; abdominal segmental margins ochraceous; apices of the femora luteous, anterior and posterior tibiæ annulated at base, and the intermediate tibiæ both at base and apex with fuscous.

Tegmina pale greenish-ochraceous-hyaline, the venation brownish-ochraceous; a large pale fuscous spot at bases of second, third, fourth, fifth, and seventh apical areas, some small spots at bases of sixth and eighth apical areas, two very small spots on the margins of third ulnar area, and a series of large marginal spots at the apices of the longitudinal veins to apical areas. Wings pale hyaline, the venation brownish-ochraceous.

Long. excl. tegm. ♂, 34 millim. Exp. tegm. 75 millim.

Hab.—Malayan Archipelago: Sumatra (Leyden Mus.).

Genus RUSTIA.

Rustia, Stål, Hem. Afr. vol. iv. p. 8 (1866).

Body moderately long and slender. Head broad, including eyes about as wide as the anterior margin of the mesonotum; the vertical angles globosely produced in front of the anterior margin of the eyes, which are somewhat pedunculate; ocelli situate much farther apart from eyes than from each other. Pronotum with the lateral margins moderately convexly sinuate, the posterior angles somewhat lobately recurved. Anterior femora distinctly and prominently spined. Tympana almost totally uncovered and exposed. Opercula very small, not covering the cavities. Tegmina and wings hyaline; tegmina with the basal cell much longer than broad, apical areas eight in number, interior ulnar area of irregular shape and much wider at apex than at base; wings with five apical areas.

Rustia is a genus of small species, which according to present knowledge are confined to India and South-eastern Continental Asia.

1. Rustia dentivitta. (Tab. VIII., figs. 14, *a*, *b*.)

Cicada dentivitta, Walker, Journ. Ent. vol. i. p. 304 (1862).

Rustia pedunculata, Stål, Berl. Ent. Zeit. 1866, p. 383.

♂. Body and legs brownish-ochraceous; head with a fascia on each side of front, two central longitudinal spots to vertex, a spot on inner margin of eyes, and the anterior angles of vertex, black; pronotum with two central longitudinal fasciæ, on each side of which is an oblique fascia and the sublateral margin, black. Mesonotum with two centrally united obconical spots, and a curved fascia on each lateral area, black; abdomen with a faint central longitudinal fascia, and the apex above and beneath, more or less blackish.

Tegmina and wings hyaline; tegmina with the venation, costal membrane, and a series of large marginal spots—sometimes united—on the longitudinal veins to apical areas, fuscous.

Rostrum reaching the posterior coxæ; the face moderately tumid, with strong transverse striations, but with no trace of a longitudinal sulcation.

Long. excl. tegm. ♂ and ♀, 12 to 14 millim. Exp. tegm. 32 to 40 millim.

Hab.—Continental India: Margherita in Assam (Doherty—coll. Dist.). Burma: Rangoon (coll. Dist.). Siam (coll. Pascoe). Cambodia (Stockh. Mus.).

Var. a, amussitata. (Tab. XII., figs. 16, *a*, *b*.)

Tibicen amussitatus, Dist. Ann. Mag. Nat. Hist. ser. 6, vol. i. p. 373 (1888); Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 392 (1888).

Tegmina almost unspotted, or with only faint traces of the marginal spots; sometimes with a single apical spot.

Hab.—Continental India: Karwar and Darjeeling (coll. Dist.); Naga Hills (Doherty—coll. Dist.). Burma (Bingham—coll. Dist.).

2. Rustia tigrina. (Tab. XIV., figs. 19, *a*, *b*.)

Tibicen tigrinus, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. ii. p. 325 (1888).

Ochraceous; a transverse fascia between the eyes, a broad marginal fascia to pro- and mesonotum, a spot on each side of basal cruciform elevation, and two longitudinal dorsal fasciæ on abdomen, dark castaneous or blackish. Body beneath and legs ochraceous; apex of abdomen spotted with black.

Tegmina and wings pale hyaline, the first with the costal membrane and basal area of venation ochraceous, remaining venation and an apical spot fuscous; wings with the venation fuscous.

The rostrum just passes the intermediate coxæ; the anterior femora are armed beneath with four spines—two central long and prominent, one short and obscure near base, and one short placed just in front of the apical longest spine.

Long. excl. tegm. ♂, 13 millim. Exp. tegm. 31 millim.

Hab.—Continental India: Kulluur (coll. Atkins. and coll. Dist.).

Genus KARENIA.

Karenia, Distant, Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 457 (1888).

Head depressed, rounded, somewhat narrower than the anterior margin of the pronotum. Pronotum more than twice as broad as long, widened posteriorly, the lateral margins ampliated and obscurely toothed. Mesonotum somewhat large, the cruciform basal elevation elongated. Abdomen short and robust, about equal in length to that of pro- and mesonotum combined. Anterior femora strongly toothed beneath. Rostrum slightly passing the posterior coxæ. Opercula small and widely separated.

Tegmina with the basal ulnar area slightly ampliated anteriorly, the base distinctly narrower than apex; apical areas eight.

The principal characteristics of this genus are the following: *viz.* the tympana are altogether uncovered and exposed; the lateral areas of the basal cruciform elevation to mesosternum are much narrowed, their margins oblique; the basal cell of tegmina is about twice as long as broad with the ulnar veins emitted at its extreme apex.

Karenia has a superficial resemblance to the Tropical American genus *Pachysaltria*, Stål. Two species are at present alone recorded, both being found in our faunistic area.

1. Karenia ravida. (Tab. XII., figs. 6, *a*, *b*.)

Karenia ravida, Distant, Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 458 (1888).

♂. Head, pronotum and mesonotum olivaceous. Head with a curved spot near the base of the antennæ, the area of the ocelli, and a lineate spot on each side of the same, black. Pronotum with two central obconical spots starting from anterior margin, between which is a very indistinct central longitudinal line

and a somewhat effaced triangular fascia crossing each side of disk, blackish. A black spot in front of each anterior angle of the basal cruciform elevation, the posterior margin of which is also black. Abdomen above olivaceous, much shaded with black. Body beneath olivaceous; a spot at base of each antenna, apices of anterior femora, bases of intermediate and posterior tibiæ, the anterior and intermediate tarsi, and the apex of the abdomen, black.

Tegmina and wings pale hyaline, the venation brownish-olivaceous; the first with the transverse veins at the bases of the second, third, fifth, seventh, and eighth apical areas infuscated, and a marginal series of fuscous spots placed on the longitudinal veins of the apical areas.

Long. excl. tegm. 27 millim. Exp. tegm. 87 millim.

Hab.—Burma: Kakhien Hills (Fea—Genoa Mus. and coll. Dist.).

2. Karenia cælatata. (Tab. XIII., figs. 5, *a*, *b*.)

Karenia cælatata, Distant, 'Entomologist,' vol. xxiii. p. 91 (1890).

♀. Head, pronotum and mesonotum pale greenish, sparingly pilose; head with the area of the ocelli, and a spot on each side of base of front, black; eyes brownish-ochraceous. Pronotum with two central discal curved fasciæ, which are united posteriorly, and a spot on the lateral margins, black. Mesonotum with two central obconical spots at anterior margin, on each side of which is a larger angulated spot, and a rounded spot at each anterior angle of the basal cruciform elevation, black (these spots are more or less effaced in the typical specimen described); base of the cruciform elevation, a small spot on each side of it, and a spot on each side of the basal margin of the metanotum, black. Abdomen ochraceous, strongly pilose, with three irregular longitudinal fuscous fasciæ,—the central one broadest, those on the lateral areas much angulated and macular. Body beneath and legs greenish-ochraceous; a spot at base of antennæ, posterior margin of face, a spot near bases and apices of femora, bases of tibiæ, tarsal claws, and the base and apex of abdomen, more or less black.

Tegmina and wings pale hyaline, the venation more or less fuscous; tegmina with the costal membrane greenish, its extreme margin black, the transverse veins at the bases of the second, third, fourth, fifth and seventh apical areas broadly infuscated, and a series of fuscous marginal spots placed on the apices of the longitudinal veins to apical areas; extreme bases of the tegmina and wings ochraceous.

Long. excl. tegm. ♀, 30 millim. Exp. tegm. 100 millim.

Hab.—China: Chia Kou Ho, 1700 feet (Pratt—coll. Dist.).

Genus TIBICEN.

Tibicen, Latreille, Fam. Nat. p. 426 (1825); Stål, Hem. Afr. iv. pp. 8 and 25 (1866); Dist. Biol. Centr. Am. Rhynch. Hom. p. 18 (1883).

Subgen. *Abricta*, Stål, Hem. Afr. iv. p. 26 (1866); Karsch, Berl. Ent. Zeit. xxxv. p. 111 (1890).

Subgen. *Abroma*, Stål, Hem. Afr. iv. p. 27 (1866); Karsch, Berl. Ent. Zeit. xxxv. p. 111 (1890).

Subgen. *Quintilia*, Stål, Hem. Afr. iv. p. 28 (1866); Karsch, Berl. Ent. Zeit. xxxv. pp. 111 and 116 (1890).

Subgen. *Nelcynda*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 716.

This genus is of a very variable nature, if the subgenera enumerated above are to be considered only in that limited sense. Karsch (*supra*) has with considerable reason treated them as distinct genera; but as the species in this fauna are not numerous, I have adhered generally to Stal's arrangement, and therefore give the generic diagnosis as enunciated by him, which embraces the different subgeneric divisions.

"Corpus oblongum. Caput latitudine varians, thoracis antico raro latius; fronte leviter vel modice convexa, haud plus quam dimidium latitudinis faciei occupante, sulco longitudinali instructa;* clypeo apice subacuminato vel leviter truncato. Rostrum breve vel mediocre. Ocelli a basi capitis remoti. Thorax lateribus raro paullo explanatis, sæpissime convexis, postice ampliatus. Tegmina margine costali haud vel basin versus leviter dilatato, venis ulnaribus sæpissime admodum distantibus, numquam contiguis, areis apicalibus octo, prima quam secunda longius antrorsum extensa. Tympana tota detecta. Margo anticus partis posticæ segmenti dorsalis primi abdominis in lobum haud ampliatus rectus. Segmentum ventrale ultimum feminarum profunde lateque emarginatum. Opercula parva aut mediocria, haud valvantia, raro contigua. Femora antica subtus spinosa."

Tibicen, as thus freely understood, has a world-wide distribution, but its typical forms are found in the Nearctic and Palæarctic regions, and only just enter the Indian section of the Oriental region.

A. *Head, including outer margins of eyes, much narrower than base of mesonotum.*

a. *Wings with six apical areas.*

1. Tibicen casyapæ.† (Tab. XIV., figs. 20, *a*, *b*.)

Tibicen casyapæ, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 374 (1888).

♀. Head black; margins of front, ocelli, and a small central basal spot, dull reddish; eyes ochraceous. Pronotum dull reddish, the margins and two central longitudinal lines black. Mesonotum black; two central "antler"-shaped fasciæ, the lateral margins, and the basal cruciform elevation, dull reddish, the anterior angles of the last black. Abdomen above black. Body beneath black, somewhat greyishly pilose; face red, its central longitudinal sulcation black; rostrum black; legs reddish, the femora streaked with black beneath.

Tegmina and wings pale hyaline, their bases dull reddish, the venation blackish; the costal membrane of tegmina ochraceous.

The face is large, but laterally compressed and strongly striated, with a profound central longitudinal sulcation. The rostrum about reaches the intermediate coxæ; the legs are robust, and the anterior femora have a strong spine beneath at apex and a similar spine near base.

Long. excl. tegm. ♀, 35 millim. Exp. tegm. 90 millim.

Hab.—Continental India: Kashmeer Valley, 6300 feet (Leech—coll. Dist.).

2. Tibicen reticulatus. (Tab. XIV., figs. 21, *a*, *b*.)

Tibicen reticulatus, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 374 (1888).

♀. Head black; apex of front, anterior lateral margins of vertex, and a narrow central longitudinal line, dull reddish; eyes brownish-ochraceous. Pronotum black, the margins and two large contiguous spots on each side of disk dull reddish. Mesonotum black; the margins, the basal cruciform elevation, and two irregular subobconical spots on anterior margin, dull reddish. Abdomen black. Body beneath and legs black, somewhat greyishly pilose; margins of the face, under surfaces and apices of femora, tibiæ and tarsi, excluding bases and extreme apices, spots and markings on sternum and abdominal segmental margins, dull reddish.

Tegmina and wings pale hyaline, the venation blackish, their bases narrowly reddish, outwardly shaded with black; costal membrane to tegmina dull reddish.

* Except in the subgenus *Nelcynda* as subsequently defined by Stål.

† According to tradition, the valley of Kashmeer was drained and colonised by Casyapa, about 2,666 years before the commencement of the Christian era (Hamilton 'East India Gazetteer').

The face is laterally much compressed and moderately striated; the rostrum about reaches the intermediate coxæ; the legs are robust, and the anterior femora have a strong spine both at base and apex.

The tegmina in the specimen figured have a small additional cell at base of the second apical area, caused by the presence of a short abnormal transverse vein.

Long. excl. tegm. ♀, 29 millim. Exp. tegm. 70 millim.

Hab.—Continental India: Gilgeet (coll. Dist. and coll. Atkinson).

3. Tibicen lacteipennis. (Tab. X., figs. 5, *a*, *b*; Tab. XII., figs. 10, *a*, *b*.)

Cephaloxys lacteipennis, Walker, List Hom. i. p. 237, n. 8 (1850).

Mogannia lacteipennis, Atkins. J. A. S. Beng. vol. liii. p. 233, n. 92 (1885).

This species, being only known to the writer by the typical female specimen contained in the British Museum,—here figured,—Walker's original description is also given.

"Body luteous, clothed with pale hairs: head black, small, much narrower than the thorax; a small tawny spot at the base of each feeler; face very prominent, adorned on each side with a large tawny spot: mouth black, tawny at the base: eyes not prominent: feelers black: fore-chest much narrower in front than behind; sides rounded at the base of the fore-wings, then slightly concave, and again slightly convex and minutely notched towards the fore border; furrows of the scutcheon black; hind-scutcheon broad, a black band along its fore border; scutcheon of the middle-chest adorned with four black obconical slightly excavated marks; middle pair not more than half the length of the side pair,—between the former there is a black stripe increasing in breadth from the fore border to the middle, where it ceases; hind border very slightly excavated: abdomen black, obconical, a little broader and longer than the chest; hind borders of the segments tawny; a tawny spot on each side near the tip, which is also tawny: opercula tawny, small, open; their furrows hoary; drums extremely small: legs luteous; a pitchy spot at the tip of each shank; tips of the claws black; fore thighs armed with two stout teeth, which are partly black at the base: wings and flaps white, opake, luteous at the base; veins black, tawny towards the base and near the brand, an additional cross-vein near the tip of the sixth discoidal areolet of the left wing of the specimen described."

"Length of the body 17 lines; of the wings 46 lines."

Hab.—Continental India: "North India" (*sic*) (Stevens—Brit. Mus.).

B. *Head, including outer margins of eyes, about or nearly equal in width to base of mesonotum.*

b. *Wings with six apical areas.*

4. Tibicen subvittatus. (Tab. XII., figs. 17, *a*, *b*.)

Cicada subvitta, Walker, List Hom. i. p. 222, n. 176 (1850); Atkins. J. A. S. Beng. vol. liii. p. 230, n. 73 (1885).

Tibicen subvitta, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 485.

Cicada strigosa, Walk. Ins. Saund. Hom. p. 19 (1858).

♂. Body above blackish; head with the eyes, a small spot on vertical margins, a spot at base, and the ocelli, ochraceous; pronotum with the anterior and posterior margins—narrowly,—a central longitudinal fascia, and the fissures, ochraceous; mesonotum with very faint linear outlines of two central obconical spots, and the apices of the cruciform elevation, ochraceous; margins of the abdominal segments, and basal area of last abdominal segment, castaneous. Body beneath, with the lateral margins of the face, sternal spots, opercula, and disk of abdomen, ochraceous; legs considerably spotted and marked with ochraceous.

Tegmina and wings pale hyaline, the venation mostly fuscous. Tegmina with the outer edge of costal membrane, the basal cell, and claval area, ochraceous; apex of basal cell blackish; a short fuscous

fascia crosses apex of radial area, and is continued by macular indications to apex of interior ulnar area, transverse veins at bases of the apical areas infuscated, and a small fuscous apical spot. Wings with the bases of the apical areas infuscated, a marginal spot preceding lower apical area and basal streaks fuscous; extreme base ochraceous.

In the male the apex of the abdomen has three distinct spines.

Long. excl. tegm. ♂, 16 millim. Exp. tegm. 45 millim.

Hab.—Continental India: Sikkim (Calc. Mus.); N.W. Himalaya (coll. Dist.).

bb. *Wings with five apical areas.*

5. **Tibicen nanus.** (Tab. XIV., figs. 22, *a*, *b*.)

Cicada nana, Walker, List Hom. i. p. 202, n. 154 (1850).

Tibicen nana, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 485.

"Body tawny: head hardly narrower than the fore-chest; crown ferruginous, pitchy on each side; face convex, not prominent, adorned in front with two pitchy stripes: mouth dark tawny with a black tip, reaching the middle hips: feelers tawny, very stout: eyes prominent: fore-chest ferruginous, very little narrower in front than behind; its sides slightly convex; hind-scutcheon very narrow; a very large triangular black mark on each side of the scutcheon whose hind border is hardly excavated: abdomen obconical, tapering quickly along the whole length, much longer than the chest: opercula small; drums of moderate size, rather less than one-third of the length of the abdomen: legs tawny; claws black; fore-thighs armed with three tawny teeth: wings and flaps colourless; veins tawny, black along the hind borders of the fore-wings."

"Length of the body 6 lines; of the wings 14 lines."

Hab.—China (Lay—Brit. Mus.).

My knowledge of the above species is limited to the typical specimen in the British Museum,—now figured,—and to Walker's description, which is here reproduced.

bbb. *Wings with four apical areas.*

6. **Tibicen tener.** (Tab. VI., figs. 5, *a*, *b*.)

Tibicen (*Nelcynda*) *tener*, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 716, n. 2.

"Flavescente-ferrugineus vel olivaceus, subtus pedibusque pallidior; loris, verticis macula minuta pone ocellum anticum, maculis duabus ad ocellos laterales maculaque minuta angulorum basalium, vel macula magna spatium totum inter ocellos et oculos occupante, impressionibus disci thoracis, maculis duabus basalibus mediis vittaque laterali posterius abbreviata scutelli, interdum etiam margine basali segmentorum dorsalium abdominis vittaque ventris nigris; tegminibus alisque vitreis, venis flavo-ferrugineis, apicem versus nigris, costa rufo-ferruginea vel olivacea."

"♂, ♀. Long. 10—12, exp. tegm. 25—31 mill."

"♂. Operculis angustissimis, elongatis, leviter curvatis, sensim subangustatis; segmento dorsali ultimo apice medio acute dentato-producto, angulis posticis in processum, basi latum, dein subito superne profunde sinuatum et pone sinum gracilem, productis; segmento ventrali penultimo æque longo ac lato, postice rotundato, segmento ultimo obovato, segmento penultimo fere duplo longiore."

"♀. Segmento dorsali ultimo apice in dentem producto, vittis duabus postice abbreviatis nigris ornato; segmento ventrali ultimo apice latissime profundeque angulato-emarginato."

"Satura fere *Thaphuræ miselle*,* cui haud dissimilis. Ocelli in triangulum subobtusangulum dispositi, postici ab oculis quam inter se vix longius remoti. Thorax variat maculis duabus magnis nigris.

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).

The figure here given is taken from a female typical specimen in the Stockholm Museum.

* A Neotropical species.

C. *Head, including outer margins of eyes, distinctly broader than base of mesonotum.*

c. *Wings with six apical areas.*

7. Tibicen maculicollis. (Tab. XIV., figs. 23, *a*, *b*.)

Cicada maculicollis, Guérin, Voy. Coq. Zool. p. 183 (1830); Atkins. J. A. S. Beng. vol. liii. p. 230, n. 76 (1885).

Body above pale fuscous or castaneous; anterior margins of front and vertex of head, a central hour-glass-shaped fascia to pronotum, four obconical spots to mesonotum,—the central pair shortest,—fuscous or dark castaneous. Body beneath and legs pale castaneous; the face darker, the interior margins of eyes broadly greyishly tomentose.

Tegmina and wings pale hyaline; tegmina with the costal membrane pale castaneous.

Opercula small and lobately directed inwardly; the rostrum reaches the posterior coxæ.

Long. excl. tegm. ♂ and ♀, 20 millim. Exp. tegm. 55 to 56 millim.

Hab.—Continental India: Bengal (Guér.). Malay Peninsula: Perak (Doherty—coll. Dist.).

This species is very variable in coloration, some specimens having the abdomen olivaceous in hue, and in others the distinctive markings of the pronotum are not well pronounced.

Stål (Hem. Afr. iv. p. 27) recites *T. maculicollis* as a synonym of *Tibicen brunneus*, Fabr., a species found in the island of Mauritius. This is incorrect, and the two species belong to different subgenera as defined by Stål himself; *T. brunneus* belonging to the s.g. *Abricta*, and *T. maculicollis* to the s.g. *Abroma*.

8. Tibicen apicalis. (Tab. XII., figs. 15, *a*, *b*.)

Cicada apicalis, Germar, Thon. Ent. Arch. ii. p. 8, n. 96 (1830); Silb. Rev. Ent. ii. p. 63, n. 21 (1834); Walk. List Hom. i. p. 161, n. 103 (1850).

Cicada semicincta, Walk. List Hom. i. p. 142, n. 80 (1850); Stål, Öfv. Vet.-Ak. Förh. 1862, p. 481.

Tibicen apicalis, Stål, Ann. Soc. Ent. Fr. sér. 4, vol. i. p. 618 (1861); Atkins. J. A. S. Beng. vol. liii. p. 231, n. 83 (1885).

♂. Head above black, with a castaneous spot on front, the eyes ochraceous, the ocelli reddish. Pronotum castaneous, with the margins and a central hour-glass-shaped fascia black. Mesonotum with three obconical spots, the central one shortest and broadest. Abdomen blackish, darkest on basal disk, with a greyish white tomentose spot on the lateral margins of both the first and second abdominal segments, and a similarly coloured basal margin to the sixth and sometimes also to the fifth abdominal segments. Body beneath blackish, the legs pale ochraceous, the femora more or less castaneous above, lateral areas of the sternum ochraceous and greyishly tomentose, margins of the opercula and lateral areas of the abdomen pale castaneous.

Tegmina and wings pale hyaline, the venation mostly fuscous; tegmina with the costal membrane ochraceous, and with a small apical fuscous spot.

Long. excl. tegm. ♂, 17 millim. Exp. tegm. 48 millim.

Hab.—Continental India: Bombay (Calc. Mus.); Karwar (coll. Dist.).

cc. *Wings with five apical areas.*

9. Tibicen nubifurca. (Tab. XIV., figs. 24, *a*, *b*.)

Cicada nubifurca, Walker, List Hom. Suppl. p. 28 (1858).

Tibicen nubifurca, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 485; Dist. Ann. & Mag. Nat. Hist. ser. 6, vol. ix. p. 325 (1892).

Cicada apicalis, Kirby, Journ. Lin. Soc. Zool. vol. xxiv. p. 131, t. v. f. 1 (1891).

♀. Head and thorax above castaneous, ochraceously pilose; pronotum with a central longitudinal fascia and the lateral margins obscurely ochraceous; mesonotum with two small, obscure, central

ochraceously margined spots; abdomen ochraceous, palely pilose. Body beneath and legs pale ochraceous; face (excluding margins), rostrum (excluding base), and shadings to femora, pale fuscous.

Tegmina and wings pale hyaline, the venation fuscous; tegmina with the costal membrane pale ochraceous; a spot at apex of radial area, a spot at base of third apical area, and sometimes an apical spot, fuscous.

Long. excl. tegm. ♀, 14 millim. Exp. tegm. 40 millim.

Hab.—Ceylon (Templeton—Brit. Mus.; Green—Brit Mus. and coll. Dist.).

Species only known to the writer by descriptions.

10. Tibicen ferrarius.

Tibicen (Abroma) ferrarius, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 716, n. 1.

"Ferrugineus, parce griseo-sericeus, vertice scutelloque nigro-signatis; tegminibus alisque sordide vitreis, venis sordide flavescente-ferrugineis, apicem versus pallescentibus; dorso abdominis vittaque ventris nigris."

"♂. Long. 20, lat. 7, exp. tegm. 59 mill."

"♂. Operculis segmentoque ventrali primo pallide subferrugineo-flavescentibus, illis totis distantibus, apicem versus sensim tamen nonnihil convergentibus, a basi ad apicem sensim nonnihil ampliatis, apice obtuse rotundatis."

"*T.* (*Abromæ*) *apicali*, Germ., maxime affinis, operculis nonnihil longioribus, apice obtusius rotundatis, tegminibus apice immaculatis, area ulnari interiore latiore, apice obtusiore, angulo ejusdem apicali exteriore minus obtuso, fronteque paullo minus tumida differt. Fascia inter ocellos et oculos maculaque anterior verticis, angulus apicalis interior jugorum lora et clypeus nigra. Thorax macula anteriore, maculis duabus discoidalis, impressionibus, lateralibus et postica nigris. Scutellum maculis quattuor obtriangularibus normalibus lateribusque nodi apicalis nigris. Alæ area anali leviter infuscata, basin et apicem versus obscuriore. Femora nigro vittata."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).

11. Tibicen pusillus.

Tettigonia pusilla, Fabricius, Syst. Rhyng. p. 44, n. 59 (1803).

Tibicen pusillus, Stål, Hem. Fabr. ii. p. 8, n. 2 (1869).

The following is the full diagnosis of Stål, who examined the Fabrician type.

"Gracilis, pallide testaceo-flavescens, parce albido-sericeus; capite, impressionibus obliquis vittaque angusta laterali intramarginali thoracis, maculis duabus contiguis obovatis basalibus, vitta obliqua laterali, posterius abbbreviata, fascia angusta interrupta posteriore maculisque duabus parvis ante fasciam positis scutelli nigricantibus; basi lateribusque frontis, macula clypei, basi verticis et macula minuta apicali jugorum pallide testaceo-flavescentibus, vitta media limboque postico thoracis pallidis; segmentis dorsalibus abdominis, excepto limbo apicali, in fusco-testaceum vergentibus, margine basali nigricante; vitta coxarum anticarum, femoribus anticis subtus, femoribus posterioribus, parte superiore apiceque exceptis, nec non apice tarsorum fusco-testaceis; costa venaque radiali pallide flavescentibus, illa extus fusca."

"♀. Long. 12, lat. thor. 4, exp. tegm. 34 mill.

Hab.—Malayan Archipelago: Amboina (Mus. Fabricii).

Genus EMATHIA.

Emathia, Stål, Hem. Afr. vol. iv. p. 8 (1866); Atkins. J. A. S. Beng. vol. liii. p. 229 (1885).

Body robust. Head, including outer margins of eyes, narrower than base of mesonotum; ocelli wider apart from eyes than from each other; front broad and prominent. Pronotum with the lateral margins straight, but ampliated at the posterior angles. Tympanal coverings rudimentary, the tympana practically exposed. Opercula small, not extending beyond basal segment of abdomen. Rostrum almost reaching the posterior coxæ. Tegmina with the basal cell not quite twice as broad as long; the interior ulnar area about equally broad at base and apex; first and second apical areas equal in length; apical areas eight in number. Wings with six apical areas.

This genus, closely allied to *Tibicen*, was founded by Stål for the reception of a single species at present only known from a restricted area of Continental India.

1. Emathia ægrota. (Tab. XII., figs. 3, *a*, *b*.)

Emathia ægrota, Stål, Berl. Ent. Zeit. 1866, p. 172, n. 1; Atkins. J. A. S. Beng. vol. liii. p. 229, n. 69 (1885).
Tibicen aurengzebe, Dist. Trans. Ent. Soc. Lond. 1881, p. 646; Atkins. J. A. S. Beng. vol. liii. p. 231, n. 83 (1885).

♂. Body above dull dark ochraceous. Head with the front margined anteriorly by two narrow black striæ; ocelli narrowly margined with black; eyes pale ochraceous. Pronotum with a central longitudinal sulcation, bordered with a small fuscous spot on each side at anterior margin, and starting from a wide, transverse, and somewhat raised base, on the centre of which is a fuscous spot; fissures narrowly fuscous; lateral anterior and posterior margins much paler. Mesonotum with two short obconical central fuscous spots, and a large sublateral and somewhat broken fascia of the same colour on each side. Abdomen with the posterior segmental margins narrowly and obscurely paler. Body beneath concolorous; centre of face, metasternum, disk and apex of abdomen, fuscous. Legs concolorous; femora streaked with fuscous; bases and apices of tibiæ, and apical joints of tarsi, also fuscous.

Tegmina and wings pale hyaline; tegmina with the costal membrane and basal half of venation ochraceous, remainder fuscous; transverse veins at bases of second and third apical areas, apical transverse vein to radial area, and apical vein to interior ulnar area, more or less infuscated, and with a small subapical fuscous spot. Wings with the base of upper apical area and the apex of abdominal area infuscated.

Face with the base much elevated, distinctly longitudinally sulcated, and strongly transversely striate. Rostrum about reaching posterior coxæ, with its apex pitchy; opercula slender, curved inwardly, but widely separated at base and apex.

Long. excl. tegm. ♂, 18 millim. Exp. tegm. 48 millim.

Hab.—Continental India: Bombay (Stockh. Mus.); Khandala (coll. Dist.).

A typical specimen, kindly forwarded by Dr. Aurivillius, has enabled me to discriminate this genus, and to see that the species I had described as *Tibicen aurengzebe* was really the type of the same.

Genus CICADATRA.

Cicadatra, Amyot, Ann. Soc. Ent. Fr. t. v. p. 153 or 349 (1847); Kolenat. Melet. Entomol. p. 9 (1857); Bull. Soc. Nat. Mosc. vol. xxx. p. 407 (1857).

Body robust. Head, including eyes, much narrower than base of mesonotum; ocelli wider apart from eyes than from each other. Pronotum broader than long, the posterior angles of the lateral margins

ampliated. Tympanal coverings rudimentary, the tympana practically uncovered. Opercula small. Tegmina moderately short and broad; the basal cell twice as broad as long; the interior ulnar area a little broader at apex than at base; apical areas eight in number. Wings with six apical areas.

This is a Palæarctic genus just entering the Oriental region by North-western India. Five species can now be enumerated, but doubtless others remain to be discovered.

a. *Tegmina and wings spotted.*

1. Cicadatra querula. (Tab. XII., figs. 2, *a*, *b*.)

Cicada querula, Pallas, Reise durch versch. Provinz. Russ. Reichs, t. ii. p. 729, n. 83 (1773); Linn. ed. xiii. Gmel. p. 2100, n. 95 (1782); Goeze, Ent. Beytr. ii. p. 151, n. 17 (1778); Hagen, Stett. Ent. Zeit. 1856, p. 33, n. 5.
Cicadatra querula var. *paliuri*, Kolenat. Bull. Soc. Nat. Mosc. vol. xxx. p. 412, t. vi. f. 5 (1857).
Cicada steveni, Stål, Öfv. Vet.-Ak. Förh. 1854, p. 243.
Cicadatra querula, Kolenat. Bull. Soc. Nat. Mosc. vol. xxx. p. 410, n. 4 (1857); Stål, Ann. Soc. Ent. Fr. sér. 4, vol. i. p. 617 (1861).
Cephaloxys quadrimacula, Walk. List Hom. i. p. 238, n. 9 (1850).
Cicadatra quadrimacula, Stal, Öfv. Vet.-Ak. Förh. 1862, p. 485.
Moganniа quadrimacula, Atkins. J. A. S. Beng. vol. liii. p. 233, n. 93 (1885).
Cicada nigrosignata, MS. (Mus. Vienn.).
Stoll. Cig. fig. 6.

♂ *and* ♀. Head and thorax above ochraceous or reddish-ochraceous. Head with the front, and a large broken transverse fascia between the eyes, black. Pronotum with two central longitudinal fasciæ,—irregular in width,—the fissures, and a submarginal lateral fascia, black. Mesonotum with four obconical spots,—the central pair shortest and sometimes fused,—a lanceolate spot in front of the cruciform elevation, and a spot on each side of same, black. Abdomen sometimes ochraceous with a discal series of black spots, or altogether black with the posterior segmental margins ochraceous. Head beneath, sternum, legs, and opercula, ochraceous; the face, sternal spots, shadings to femora, tibiæ and tarsi (irregular in quantity), black; abdomen beneath ochraceous, in some specimens black with the posterior segmental margins ochraceous.

Tegmina and wings pale hyaline, somewhat talc-like in appearance, the venation—excepting sometimes towards apices—ochraceous; tegmina with the costal membrane ochraceous, the transverse veins at the bases of the first, second and third apical areas—sometimes only the second and third—very darkly infuscated; a small costal spot at end of radial area, and the upper margin of basal cell, dark fuscous. Wings with the transverse veins at the bases of the first, second and third apical areas—sometimes only the first and second—broadly and very darkly infuscated.

The rostrum has its apex black, and about reaches the posterior coxæ; the face is distinctly sulcated for its whole length, and is coarsely transversely striate.

Long. excl. tegm. ♂ and ♀, 19 to 25 millim. Exp. tegm. 50 to 65 millim.

Hab.—**Palæarctic Region.***—Persia (coll. Dist.). Turkestan: Tashkend (coll. Dist.). Afghanistan (Ind. Bound. Com.—coll. Dist.). **Oriental Region.**—Continental India: North India (*sic*) (Stevens—Brit. Mus.).

This well-known Palæarctic species evidently just enters our fauna at the north-western frontier of India. It was found not uncommon on the borders of Afghanistan by the Indian Boundary Commission.

* *Habitat* circa mare *Caspicum* ad fluvium *Wolga*, *Terek*, *Cyrum*, in Russiæ meridionalis adjacentibus *provinciis cis* et *transcaucasicis*, in Sibiriæ adjacentibus (*Orenburg*).—Kolenati, Bull. Soc. Nat. Mosc. t. xxx. p. 411 (1857).

2. Cicadatra rugipennis. (Tab. XII., figs. 7, *a*, *b*.)

Cicada rugipennis, Walker, Ins. Saund. Hom. p. 17 (1858).

"*Male*. Luteous-testaceous, stout. Prothorax much broader behind than in front; sides straight; sutures strongly marked. Abdomen with a blackish band on the fore border of each segment. Wings white, rather broad, very stout and very rugulose. Fore wings slightly convex in front; costa and veins reddish, the latter black towards the tips; first, second and third transverse veins and most part of the intermediate veins clouded with black; first and second transverse veins oblique, nearly equal, parted from each other by rather more than their length; third and fourth oblique in the contrary direction. Hind wings with a short angular black band in front at two-thirds of the length."

"Length of the body 14 lines; of the wings 40 lines."

Hab.—Continental India: Hindostan (*sic*) (Brit. Mus.).

The specimen figured is that of the unique type in the British Museum.

b. *Tegmina alone spotted.*

3. Cicadatra xantes. (Tab. XV., figs. 1, *a*, *b*.)

Cicada xantes, Walker, List Hom. i. p. 198, n. 149 (1850).

Cicadatra xantes, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 485.

♂. Body above ochraceous, rather thickly and shortly pilose. Head with the face castaneous, and with a black spot near inner margins of the eyes. Pronotum with two central longitudinal black fasciæ on disk, a small black central spot at base, and the fissures also blackish. Mesonotum with four obconical black spots, the central pair shortest. Abdomen very thickly greyishly pilose. Body beneath and legs ochraceous.

Tegmina and wings pale hyaline and somewhat talc-like in appearance, the venation ochraceous; tegmina with the costal membrane and extreme base ochraceous, the transverse veins at the bases of the second and third apical areas palely infuscated.

Long. excl. tegm. ♂, 17 millim. Exp. tegm. 50 millim.

Hab.—Continental India: North India (*sic*) (Warwick—Brit. Mus.); "Ind. Orient." (*sic*) (coll. Dist.).

I have only seen two specimens of this species,—one in the British Museum, the other belonging to my own collection. Both also have no definite habitat, with the exception of being undoubtedly from Continental India.

4. Cicadatra striata. (Tab. XV., figs. 2, *a*, *b*.)

Cicada striata, Walker, List Hom. i. p. 206, n. 158 (1850); Stål, Öfv. Vet.-Ak. Förh. 1862, p. 482 (1850).

Cicada anœa, Walk. List Hom. i. p. 207, n. 160 (1850); Atkins. J. A. S. Beng. vol. liii. p. 229, n. 71 (1885).

Cicadatra striata, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 485.

Cicadatra anœa, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 485.

Cicada subvenosa, Walk. Ins. Saund. Hom. p. 18 (1858).

♂. Head blackish, a spot at anterior angles of vertex, and a smaller one behind each eye, ochraceous. Pronotum dull ochraceous, a pale central longitudinal fascia margined on each side with blackish, the sublateral and subposterior margins and the fissures blackish. Mesonotum ochraceous, with four obconical black spots, the central pair of which are smallest, a large black spot in front of the basal cruciform elevation, and a similarly coloured spot on each side of same. Abdomen blackish, the posterior segmental margins castaneous. Head beneath blackish; sternum, legs and opercula ochraceous; coxæ spotted with blackish. Abdomen beneath pale castaneous, its apex ochraceous.

Tegmina and wings pale hyaline, with their extreme bases reddish-ochraceous; tegmina with the venation and costal membrane mostly fuscous, the transverse veins at the bases of the second and third apical areas infuscated; wings with the venation mostly ochraceous.

Long. excl. tegm. ♂, 16 millim. Exp. tegm. 45 millim.

♀. Head totally blackish; mesonotum also nearly totally black, the spots having coalesced; abdomen above darker than in the other sex, with the pale segmental margins narrower.

Long. excl. tegm. ♀, 19 millim. Exp. tegm. 48 millim.

Hab.—Continental India: Quetta (coll. Dist.); North Bengal (Miss Campbell—Brit. Mus.).

c. *Tegmina and wings unspotted.*

5. **Cicadatra acberi.*** (Tab. XV., figs. 3, *a*, *b*.)

Tibicen acberi, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 373 (1888).

♂. Head black, the ocelli red, the eyes brownish-ochraceous. Pronotum black, with a central longitudinal fascia and the hind margin yellow, and two large discal reddish spots. Mesonotum black, with two faint yellowish central fasciæ extending a short distance from anterior margin. Abdomen black, the lateral areas and apex more or less reddish. Face, sternum and femora yellow; central longitudinal fascia to face, head beneath (excluding face), apices of femora, the tibiæ and tarsi, black. Abdomen beneath dull reddish.

Tegmina and wings pale hyaline, the venation blackish or olivaceous; costal membrane to tegmina olivaceous.

The face is moderately broad and strongly striated laterally; the rostrum has the apex pitchy and about reaching the intermediate coxæ. The opercula are yellowish, short, and broad, obliquely rounded, and not meeting at centre.

Long. excl. tegm. ♂, 25 millim. Exp. tegm. 72 millim.

Hab.—Continental India: Kashmeer Valley, 6300 feet (Leech—coll. Dist.).

Genus CALCAGNINUS.

Calcagninus, Distant, *ante*, p. 31.

Body moderately long and robust. Head, including eyes, about equal in breadth to the base of mesonotum; ocelli not quite twice the distance from eyes as from each other; front broad and convexly rounded. Pronotum with the lateral margins sometimes slightly ampliated and more or less distinctly toothed, or nearly straight with the posterior angles only ampliated. Anterior femora distinctly spined. Rostrum in the male reaching the posterior coxæ. Tympanal coverings rudimentary; the tympana practically exposed and uncovered. Second and third abdominal segments in the male furnished beneath with a well-developed tubercle near each lateral margin. Tegmina with the interior ulnar area scarcely narrowed at apex; apical areas eight in number. Wings with six apical areas.

Calcagninus, by the tuberculated under surface of the abdomen, resembles superficially the genus *Leptopsaltria*, belonging to the subfam. *Cicadinæ*. It is, however, at once seen to be not even included in the *Cicadinæ*, by the uncovered and exposed tympana. Only two small species are at present known, for both of which we are indebted to the entomological enterprise of Mr. G. F. Hampson, during his residence in the Neelgiri Hills.

a. *Lateral margins of the pronotum straight, not ampliated.*

1. **Calcagninus picturatus.** (Tab. VIII., figs. 13, *a*, *b*.)

Leptopsaltria picturata, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 370 (1888).

♂. Body above brownish-ochraceous; head, excluding base, much suffused with piceous, the ocelli red, the eyes castaneous. Pronotum with a central, longitudinal, fuscous fascia, the margins of which are black,

* Acber or Akbar, the conqueror of Kashmeer in 1585.

"One of that saintly murderous brood,
To carnage and the Koran given."—*Lalla Rookh*.

ampliated anteriorly and notched and narrowed posteriorly; and an oblique piceous fascia near each lateral margin. Mesonotum with a central, longitudinal, linear fascia, on each side of which is a curved, linear, discal fascia extending to anterior margin; a broad fascia on each lateral area, and a spot at each anterior angle of the cruciform basal elevation, piceous. Abdomen sparingly greyishly pilose, with a double discal series and more continuous lateral marginal series of piceous spots; base of anal segment also piceous. Body beneath ochraceous; bases of anterior femora, bases and apices of the tibiæ, apices of the tarsi, abdominal tubercles, and anal segment of the abdomen, piceous; anal appendage luteous.

Tegmina and wings pale hyaline, the venation fuscous; the tegmina with a small costal ochraceous and fuscous spot at base of the upper ulnar area, and the transverse veins at the bases of the first, second, and third apical areas, infuscated.

The rostrum has the apex piceous and just passing the posterior coxæ, and the face is depressed and somewhat flattened.

Long. excl. tegm. ♂, 15 millim. Exp. tegm. 44 millim.

Hab.—Continental India: Neelgiri Hills, northern slopes, 5000 feet (Hampson—coll. Dist.).

b. *Lateral margins of the pronotum moderately ampliated and toothed.*

2. Calcagninus nilgirensis. (Tab. VIII., figs. 15, *a*, *b*.)

Leptopsaltria nilgirensis, Distant, Ann. Mag. Nat. Hist ser. 5, vol. xx. p. 228 (1887).

Body above olivaceous-green. Head with the front broadly margined with black; the vertex with a streak behind the eyes, some irregular markings in front, and the area of the ocelli, black. Pronotum with the following black markings:—two central fasciæ, rounded and joined posteriorly, and laterally curved and produced on each side anteriorly; on each side of these fasciæ are three discal irregular spots, and a large semicircular spot near each lateral margin. Mesonotum with the following black markings:—a central longitudinal line with a shorter curved and outwardly convex line on each side, followed by a small spot on anterior margin and by a sublateral curved and broken fascia, and a spot in front of each anterior angle of the basal cruciform elevation. Abdomen above with the segmental margins narrowly black, and with two black spots at base and a smaller spot at apex of anal appendage. Body beneath pale olivaceous-green; anterior margin and two central fasciæ—joined posteriorly—to face, some irregular spots on cheeks, segmental margins, and the apex of anal appendage, black. Legs olivaceous-green; apices of the femora, tibiæ, and tarsi, more or less pitchy. Rostrum olivaceous, with the apex black. Abdominal tubercles in the male varying in hue.

Tegmina pale hyaline, with violaceous reflexions, the venation alternately black and ochraceous, a few obscure black markings at base; the costal membrane ochraceous; an ochraceous spot at base of upper ulnar area, and the transverse veins at bases of the three upper apical areas (in the female) broadly infuscated. In the male the third and fifth transverse veins are usually spotted, and there is frequently a submarginal series of small fuscous spots.* Wings with the venation similar to tegmina, but spotless.

The lateral margins of the pronotum are biangulated, the face is large and tumid, the rostrum in the female sex distinctly passes the posterior coxæ.

Long. excl. tegm. ♂ and ♀, 16 to 22 millim. Exp. tegm. 50 to 57 millim.

Hab.—Continental India: Neelgiri Hills, northern slopes, 5000 feet (Hampson—coll. Dist.).

The females differ from the males, by the much shorter body and the greater expanse of the tegmina. In both sexes the ochraceous coloration is often olivaceous.

* In some specimens the tegmina are only very faintly and obscurely spotted.

Genus TERPNOSIA.

Terpnosia, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. ix. p. 325 (1892).

Body moderately long and robust. Head, including eyes, almost equal in width to base of mesonotum; ocelli wider apart from the eyes than from each other; front broad and convexly rounded. Pronotum widening posteriorly; the lateral margins moderately ampliated, their posterior angles lobately rounded. Anterior femora robustly and distinctly spined. Tympanal coverings rudimentary, the tympana practically exposed and uncovered. Opercula short and transverse. Tegmina and wings hyaline. Tegmina with the basal cell longer than broad; apical areas eight in number; interior ulnar area not wider at apex than at base. Wings with six apical areas.

This genus differs from *Calcagninus* by the non-tuberculated abdomen, and has a great resemblance to the genus *Pomponia* in the subfam. *Cicadinæ*, from which, of course, it is distinguished by the uncovered tympana.

Terpnosia is widely distributed, being (according to present knowledge) found in Ceylon, Continental India, Tenasserim, the Malayan Archipelago, and Japan.

a. *Tegmina more or less spotted.*

1. Terpnosia nigricosta. (Tab. XV., figs. 4, *a*, *b*.)

Cicada nigricosta, Motschulsky, Bull. Soc. Nat. Mosc. xxxix. p. 184 (1866).

♂. Head ochraceous; marginal striations to front and the whole of vertex—excluding two small spots near eyes and two basal spots—black. Pronotum blackish; the lateral and posterior margins, a central longitudinal fascia, and some discal macular markings, ochraceous; extreme edges of posterior and lateral margins, with three marginal spots near each lateral angle and a central basal marginal spot, black. Mesonotum ochraceous, with a large central fused spot, an irregular fascia on each lateral area, and a large spot in front of the basal cruciform elevation, black. Abdomen pale castaneous, with greyish tomentose lateral markings; the base,—narrowly,—the apical segment and anal appendage, and a lateral series of segmental spots, blackish. Body beneath ochraceous; a central fascia and transverse striations to face, sternal spots, opercula, femora, anterior tibiæ,—excluding under surface and apex,—base and a broad central annulation to the intermediate tibiæ, base of posterior tibiæ, base and apex of anterior and intermediate tarsi, and the margins of the apical segment, black or blackish.

Tegmina and wings pale hyaline, the venation mostly fuscous; tegmina with the costal membrane ochraceous, its outer edge black; the transverse veins at the bases of the second, third, fifth, seventh and eighth apical areas infuscated; a series of small marginal spots on the longitudinal veins to apical areas, a spot on venation at base of upper ulnar area and the same at apex and anterior margin of basal cell, and a claval streak, black.

The rostrum reaches the posterior coxæ; the face is very obscurely sulcated and somewhat strongly transversely striate.

Long. excl. tegm. ♂, 30 to 31 millim.; ♀, 23 to 26 millim. Exp. tegm. ♂, 77 to 80 millim.; ♀, 72 to 88 millim.

Hab.—Japan: Nikko, Chiuzenji (Lewis—coll. Dist.).

Mr. Geo. Lewis procured a nice series of this species during his entomological journey in Japan, with which he has kindly enriched my collection.

2. Terpnosia pryeri,* n. sp. (Tab. XV., figs. 5, *a*, *b*.)

♂. Head black, thickly greyishly pilose with two ochraceous spots on posterior margin. Pronotum ochraceous, thickly pilose with two central longitudinal fasciæ, a curved linear spot on each side of disk, the fissures, and the inner lateral and posterior margins, black; a fuscous spot on lateral margins at posterior angles, and a small central black spot on posterior margin. Mesonotum dark ochraceous, with four obconical black spots,—the central pair shortest,—a central lanceolate black spot extending from the cruciform elevation to near anterior margin, and a very small spot on anterior margin between the outer obconical spots. Abdomen pale castaneous, the posterior segmental margins—widest at centre—black. Body beneath ochraceous, thickly pilose; striations to face and sometimes facial disk, apices and sometimes under surface of femora, bases of tibiæ, apices of tarsi, sternal spots and extreme base of abdomen, black.

Tegmina and wings pale hyaline, the venation ochraceous or fuscous; tegmina with the costal membrane ochraceous; the transverse veins at the bases of the second, third, fifth and seventh apical areas infuscated.

The rostrum reaches the posterior coxæ; the face is obscurely sulcate and striate.

Long. excl. tegm. ♂, 27 millim.; ♀, 22 millim. Exp. tegm. ♂, 67 millim.; ♀, 64 millim.

Hab.—Japan: Gifu (Pryer—coll. Dist.).

This species is allied to the preceding, *T. nigricosta*, from which it differs by its smaller size, the colour and shape—best explained by figure†—of the opercula, the fasciated abdomen, and relative lengths of the first and second apical areas to tegmina, the first in *T. pryeri* being about twice the length of the second.

3. Terpnosia stipata. (Tab. XV., figs. 6, *a*, *b*.)

Dundubia stipata, Walker, List Hom. i. p. 51, n. 11 (1850).
Dundubia clonia, Walk. List Hom. i. p. 66, n. 29 (1850).
Dundubia chlonia, Stål, Öfv. Vet.-Ak. Förh. 1863, p. 480.

♂. Body above greenish-ochraceous; head with the margins of front and apical angles of vertex fuscous; the area of the ocelli, an oblique fascia on each side, and a small spot at inner margins of eyes, black. Pronotum with two central fasciæ united posteriorly, the fissures, a spot on lateral margins, extreme edge of posterior margin and a spot on each side of same, black. (The discal coloration of the pronotum in the specimen described is brownish-ochraceous.) Mesonotum with a central linear fascia with a shorter one on each side, followed by a small obconical spot and a sinuated sublateral fascia, black; two small spots in front of the cruciform elevation and the angles of same black. Abdomen with the posterior segmental margins, a broad central dorsal fascia, and a macular lateral fascia, very dark fuscous; extreme apex greyish-white. Body beneath and legs pale greenish; the abdomen beneath talc-like and semi-transparent; a few sternal spots, the anterior femoral spines, and the tarsi, more or less fuscous.

Tegmina and wings pale hyaline, the venation fuscous or ochraceous; tegmina with the costal membrane ochraceous; the transverse veins at the bases of the second, third and fifth apical areas infuscated, and a marginal series of small fuscous spots situate on the longitudinal veins to apical areas.

Face globose, centrally sulcated except at base, where there is a slight callosity; lateral striations profound; rostrum slightly passing the posterior coxæ.

Long. excl. tegm. ♂, 33 millim.; ♀, 22 millim. Exp. tegm. ♂, 80 millim.; ♀, 70 millim.

Hab.—Ceylon (Brit. Mus.); Ritagala, 2500 feet (Green—coll. Dist.).

* Named after its late discoverer, Mr. H. J. S. Pryer, who made his residence in Japan memorable to naturalists, and of whom it was said, "It is no exaggeration to state that he had become the authority, *facile princeps*, on all questions connected with the birds, butterflies, and moths, whilst at the same time he had acquired a most extensive knowledge and store of facts in connection with all other branches of the Zoology of Japan."—(*Japan Weekly Mail.*)

† Tab. XV., fig. 5, *b*.

4. Terpnosia psecas. (Tab. VII., figs. 21, *a*, *b*.)

Dundubia psecas, Walker, List Hom. i. p. 65, n. 28 (1850).
Pomponia elegans, Kirby, Journ. Linn. Soc. Zool. vol. xxiv. p. 130 (1891).
Terpnosia psecas, Dist. Ann. & Mag. Nat. Hist. ser. 6, vol. ix. p. 325 (1892).

The specimen, in my own collection and which is here figured, being somewhat faded in markings and coloration, I have thought it best to reproduce Walker's description.

"Body tawny: head much narrower than the fore-chest; crown adorned with some black marks above the eyelets and with two tawny marks on each side; face very convex; mouth tawny with a black tip, reaching a little beyond the hind-hips: eyes rather prominent: feelers tawny: scutcheon of the fore-chest adorned with two black stripes, which are widened into triangles in front and behind; fore border partly blackish; sides ferruginous with pitchy borders; hind-scutcheon rather narrow in the middle, much widened at the base of each fore-wing, much excavated on each side: scutcheon of the middle-chest adorned with four ferruginous stripes; a large tawny spot on each of the inner pair, which are succeeded by two ferruginous spots; outer pair much longer than the inner pair, much excavated, their tips widened to each side; hind border slightly excavated: abdomen obconical, as long as the chest, adorned near the base with interrupted pitchy bands on the hind borders of the segments: oviduct ferruginous: legs tawny; a pitchy band near the tip of each shank; fore thighs adorned with some pitchy marks, armed with three tawny teeth, one oblique and of moderate size, the second and third small: wings colourless; fore border and veins tawny, the latter with some pitchy bands, which are chiefly on the forks: cross veins clouded with brown; a row of oval brown spots on the tips of the longitudinal veins of the marginal areolets."

Long. excl. tegm. ♂, 26 millim. Exp. tegm. 77 millim.

Hab.—Continental India: Sikkim (coll. Dist.); Ceylon (Green—Brit. Mus.). Malayan Archipelago: Java (Argent—Brit. Mus.).

5. Terpnosia maculipes. (Tab. XV., figs. 7, *a*, *b*.)

Dundubia maculipes, Walker, List Hom, i. p. 70, n. 32 (1850); Atkins. J. A. S. Beng. vol. liii. p. 224, n. 46 (1885).

Body above dull ochraceous. Head with marginal lines to front, linear spots at anterior angles of vertex; area of the ocelli, and a small spot between ocelli and eyes, black. Pronotum with two central linear fasciæ—united posteriorly—and the fissures black. Mesonotum with a central longitudinal fascia, on each side of which is a short curved fascia, followed by a series of three irregular spots, and a small spot in front of the anterior angles of the basal cruciform elevation, black. Abdomen pilose, with the rudimentary tympanal coverings, narrow basal segmental margins and lateral marginal spots, blackish. Body beneath and legs ochraceous; coxal spots, spots near bases and apices of femora, spines to anterior femora, subbasal and subapical annulations to anterior and intermediate tibiæ, apices of tarsi, apex of rostrum, and striations to face, dark castaneous or fuscous.

Tegmina and wings pale hyaline, the venation fuscous or ochraceous; tegmina with the costal membrane ochraceous; the transverse veins at the bases of the second, third, fifth and seventh apical areas palely infuscated; a series of small pale fuscous marginal spots situate on the longitudinal veins to apical areas, and a fuscous spot at basal angle of upper ulnar area.

The opercula are larger than in the preceding species, almost meeting centrally and then obliquely divergent, their apices reaching the second abdominal segment.

Long. excl. tegm. ♂, 28 millim. Exp. tegm. 77 millim.

Hab.—Continental India: "North Bengal" (Miss Campbell—Brit. Mus.).

The specimen, in my own collection, which is here figured and described, has no precise locality affixed to it.

6. Terpnosia clio. (Tab. IX., figs. 5, *a*, *b*.)

Dundubia clio, Walker, List Hom. i. p. 73, n. 35 (1850).

♂. Head and thorax above greenish-ochraceous. Head with two central apical spots to front, a spot at anterior angles of vertex, and the area of the ocelli, black. Pronotum with two central linear fasciæ—almost united posteriorly—and the fissures black. Mesonotum with a lanceolate central longitudinal spot, a short curved fasciate line on each side, followed by two irregular spots, and a small spot in front of the interior angles of the basal cruciform elevation, black. Abdomen ochraceous, the posterior segmental margins green, the lateral margins pale ochraceous, and the margins of the rudimentary tympanal coverings, blackish. Legs, sternum and opercula greenish-ochraceous; striations to face, a spot between face and eyes, basal and apical annulations to anterior and intermediate femora and tibiæ, apices of the tarsi, apex of the rostrum, and a basal fascia to the opercula, dark castaneous or pitchy. Abdomen beneath pale ochraceous; the base, apical segment and anal appendage, black.

Tegmina and wings pale hyaline, the venation ochraceous or fuscous. Tegmina with the costal membrane greenish; the transverse veins at the bases of the second, third and fifth apical areas infuscated, and a black spot at basal angle of the upper ulnar area.

The opercula are short and obliquely rounded, and the rostrum reaches the posterior coxæ.

Long. excl. tegm. ♂, 19 millim. Exp. tegm. 50 millim.

Hab.—Continental India: Sikkim (coll. Dist.).

The specimens on which Walker founded the species were unlocalised, but I have received it from Sikkim.

7. Terpnosia andersoni, n. sp. (Tab. IX., figs. 13, *a*, *b*.)

♂. Closely allied to the preceding species, but differing by the absence of the lanceolate central fascia to the mesonotum; by the presence of an oblique submarginal, linear, broken fuscous fascia to the upper surface of the abdomen; but principally by the shape of the opercula, which are subquadrate and without the basal black fascia.

Long. excl. tegm. ♂, 19 millim. Exp. tegm. 52 millim.

Hab.—China: W. Yunnan (Anderson—coll. Dist.).

I am indebted to my friend Mr. Fredk. Moore for a specimen of this species acquired by Dr. Anderson during the W. Yunnan expedition.

b. *Tegmina unspotted.*

8. Terpnosia madhava. (Tab. IX., figs. 2, *a*, *b*.)

Pomponia madhava, Distant, Trans. Ent. Soc. 1881, p. 644; Atkins. J. A. S. Beng. vol. liii. p. 229, n. 66 (1885).

♂. Body above pale greenish; abdomen with a lateral row of three large oblong spots, only denoted by their darker green margins, and occupying the lateral sides of the second, third and fourth segments; segmental incisures narrowly dark greenish; abdominal apex somewhat greyishly tomentose. Ocelli red; eyes fuscous. Mesonotum with two very faint obconical spots. Body beneath pale greenish: legs and rostrum pale ochraceous.

Tegmina and wings pale hyaline; the first with the costal membrane and veins pale greenish.

The face is broad and convex, with a broad central longitudinal impression and strong transverse striations; the opercula are small, scarcely reaching the basal segment of the abdomen; the third and fourth abdominal segments beneath are rounded, produced, and pointed anteriorly; the rostrum reaches the posterior coxæ.

Long. excl. tegm. ♂, 22 millim. Exp. tegm. 55 millim.

Hab.—Continental India: Assam (coll. Dist.).

9. Terpnosia collina. (Tab. VII., figs. 12, *a*, *b*.)

Pomponia collina, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 371 (1888).

♂. Body above ochraceous-brown; head with the margin of the front and the vertex much suffused with blackish. Pronotum with two central longitudinal fasciæ, which are most widely separated at anterior margin; on each side of disk is a curved linear spot, and a large, oblique, semi-oval, linear spot on each lateral area, black. Mesonotum with five black fasciæ; the central fascia crossing disk and widened anteriorly and posteriorly, one on each side of this short and curved, and one on each lateral area crossing the whole of disk, and a spot in front of the anterior angles of basal cruciform elevation, black. Abdomen with the segmental margins somewhat broadly black. Body beneath ochraceous; head, excluding face, blackish; bases of tibiæ, the tarsi, and basal segment of the abdomen, fuscous; apical segment of the abdomen somewhat infuscated.

Tegmina and wings pale hyaline, the venation fuscous or ochraceous; the first with the costal membrane ochraceous.

The face is moderately tumid and not centrally and longitudinally sulcated; the rostrum reaches the posterior coxæ; the opercula are small, wide apart, and somewhat angulated.

Long. excl. tegm. ♂, 16 to 17 millim. Exp. tegm. 47 to 54 millim.

Hab.—Continental India: Khasi Hills (Calc. Mus. and coll. Dist.). Burma: Ruby Mines (Doherty —coll. Dist.).

Genus MELAMPSALTA.

Melampsalta, Amyot, Ann. Soc. Ent. Fr. (2), v. p. 155 (1847); Kolenat. Mel. Ent. vii. p. 27 (1857); Bull. Soc. Imp. Nat. Mosc. xxx. p. 425 (1857); Stål, Hem. Afr. vol. iv. p. 42 (1866); Karsch, Berl. Ent. Zeitschr. xxxv. pp. 112 and 123 (1890).

Cicadetta, Amy. Ann. Soc. Ent. Fr. (2), v. p. 156 (1847); Kolenat. Mel. Ent. vii. p. 19 (1857); Bull. Soc. Imp. Nat. Mosc. xxx. p. 417 (1857).

Tettigetta, Amy. Ann. Soc. Ent. Fr. (2), v. p. 156 (1847); Kolenat. Mel. Ent. vii. p. 24 (1857); Bull. Soc. Imp. Nat. Mosc. xxx. p. 422 (1857).

Stål* has so clearly defined this genus, as above understood, that it is as well to use his diagnosis.

"Caput thoracis antico latitudinæ subæquale; vertice oculis circiter duplo latiore; fronte leviter vel modice convexa, sulco longitudinali medio plus minus distincto instructa. Thorax postice quam antice latior, marginibus lateralibus obtusis, raro paullo explanatis. Tegmina venis ulnaribus basi contiguis vel basin versus in unam conjunctis, areis apicalibus octo, areola basali quadrangulari. Segmentum ventrale ultimum feminarum apice profundissime lateque emarginatum. Tympana superne tota detecta. Opercula parva vel mediocria. Femora antica subtus spinis tribus vel quattuor armata."

A character by which *Melampsalta* can be readily discriminated from the other genera of Oriental Tibicininæ here enumerated, is found in the tegmina by the united bases of the ulnar veins at the end of the basal cell.

Melampsalta has probably a world-wide distribution, at least wherever the Cicadidæ are found; but it reaches its maximum of representation in Australia and New Zealand, where it is certainly the dominant genus. It is poorly represented in this fauna.

* Hem. Afr. vol. iv. p. 42 (1866).

1. Melampsalta literata. (Tab. XV., figs. 8, *a*, *b*.)

Cicadetta literata, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 375 (1888):

♀. Head and pronotum dull blackish, somewhat palely pilose, both crossed by a narrow, obscure, longitudinal, ochraceous line; ocelli red, eyes black and shining. Mesonotum shining black, with the lateral margins and a large, discal, "letter H"-shaped spot ochraceous. Abdomen above dull blackish, the posterior segmental margins narrowly and obscurely dull reddish. Body beneath ochraceous, the sternum much shaded with dull blackish. Abdomen with a central longitudinal row of blackish spots; legs ochraceous, femora and tibiæ streaked with blackish.

Tegmina and wings pale hyaline, the venation olivaceous or fuscous.

The rostrum does not extend beyond the intermediate coxæ, and the face is laterally and coarsely striated.

Long. excl. tegm. ♀, 12 millim. Exp. tegm. 37 millim.

Hab.—Continental India: Kashmeer Valley, 6300 feet (Leech—Coll. Dist.).

2. Melampsalta continuata. (Tab. XV., figs. 9, *a*, *b*.)

Cicadetta continuata, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. i. p. 375 (1888).

♀. Head and thorax above dull blackish, sparingly covered with short grey pilosity. Head with the anterior margin, the ocelli, and a central, linear, longitudinal fascia continued across the pronotum, where it is widened, dull ochraceous, the pronotal margins of the same colour. Mesonotum with two longitudinal discal fasciæ, the lateral margins and basal cruciform elevation dull ochraceous, the last with its centre blackish. Abdomen above pale castaneous, greyishly pilose, the posterior segmental margins paler in hue, and with an obscure, central, narrow, longitudinal, blackish fascia. Body beneath and legs dull reddish-ochraceous; head beneath and the discal area of face blackish.

Tegmina and wings pale hyaline, their bases narrowly reddish-ochraceous, the venation more or less olivaceous.

The rostrum about reaches the intermediate coxæ, and the face is very broad and tumid.

Long. excl. tegm. ♀, 15 to 18 millim. Exp. tegm. 38 to 45 millim.

Hab.—Continental India: Quetta* (colls. Atkins. and Dist.).

3. Melampsalta pellosoma. (Tab. XV., figs. 10, *a*, *b*.)

Cicada pellosoma, Uhler, Proc. Ac. Nat. Sci. Philad. 1862, p. 283.

♂. Head above black, the anterior margins of the vertex and a spot behind the ocelli pale ochraceous; eyes brownish; ocelli red. Pronotum black, the margins and a central fascia—widened anteriorly and posteriorly—pale ochraceous. Mesonotum ochraceous, with four obconical black spots, the central pair shortest and palest in hue. Abdomen ochraceous, with a pale fuscous central longitudinal fascia. Body beneath and legs pale ochraceous; the face—excluding margins and a spot at base—blackish; coxæ and legs streaked and spotted with castaneous.

Tegmina and wings pale hyaline and talc-like, the venation ochraceous.

♀. Paler in hue than the male; head with the whole base ochraceous; pronotum with a central hour-glass-shaped ochraceous fascia; mesonotum with the obconical spots very faint or semi-obliterated.

Long. excl. tegm. ♂ and ♀, 15 millim. Exp. tegm. 37 millim.

Hab.—China: Hong Kong (Uhler); Shantung (coll. Dist.).

* We know little about the entomology of the outlying districts of North-western India, especially as to the family *Cicadidæ*, which is probably well represented. A writer in the 'Journal of the Asiatic Society of Bengal' (vol. ix. p. 441, 1840) describes how, on his march with the army of the Indus, from Kandahar towards Kabul, he observed a remarkable congregation of *Cicadidæ*, composed of more than one species. "The branches of the tamarisk were covered with them, as hardly to be able to distinguish a particle of green, and their noise all day was unceasing: the jewassee bushes being at the same time covered with the empty scales of the pupæ. Our tents and tent-ropes as soon as pitched were covered by these insects; in fact, everything looked yellow."

4. Melampsalta exæquata, n. sp. (Tab. XV., figs. 11, *a*, *b*.)

♀. Body above dull ochraceous and finely pilose. Head—excluding anterior margins of vertex and a spot at base—black. Pronotum with a central small rounded black spot at base. Mesonotum with a large obconical black spot on each lateral area, and two very small spots in front of the basal cruciform elevation. Abdomen with the base—narrowly—fuscous, and with two, more or less distinct, central longitudinal fuscous fasciæ. Body beneath and legs ochraceous, with a broad fuscous fascia extending from face to apex of abdomen. Face fuscous, with the lateral margins ochraceous. Apices of the femora, tibiæ and tarsi fuscous.

Tegmina and wings pale hyaline, the venation fuscous or ochraceous.

Long. excl. tegm. ♀, 14 millim. Exp. tegm. 37 millim.

Hab.—Continental India: Naga Hills (Doherty—coll. Dist.).

Species known to the writer by description only.

5. Melampsalta lævifrons.

Melampsalta lævifrons, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 717, n. 1.

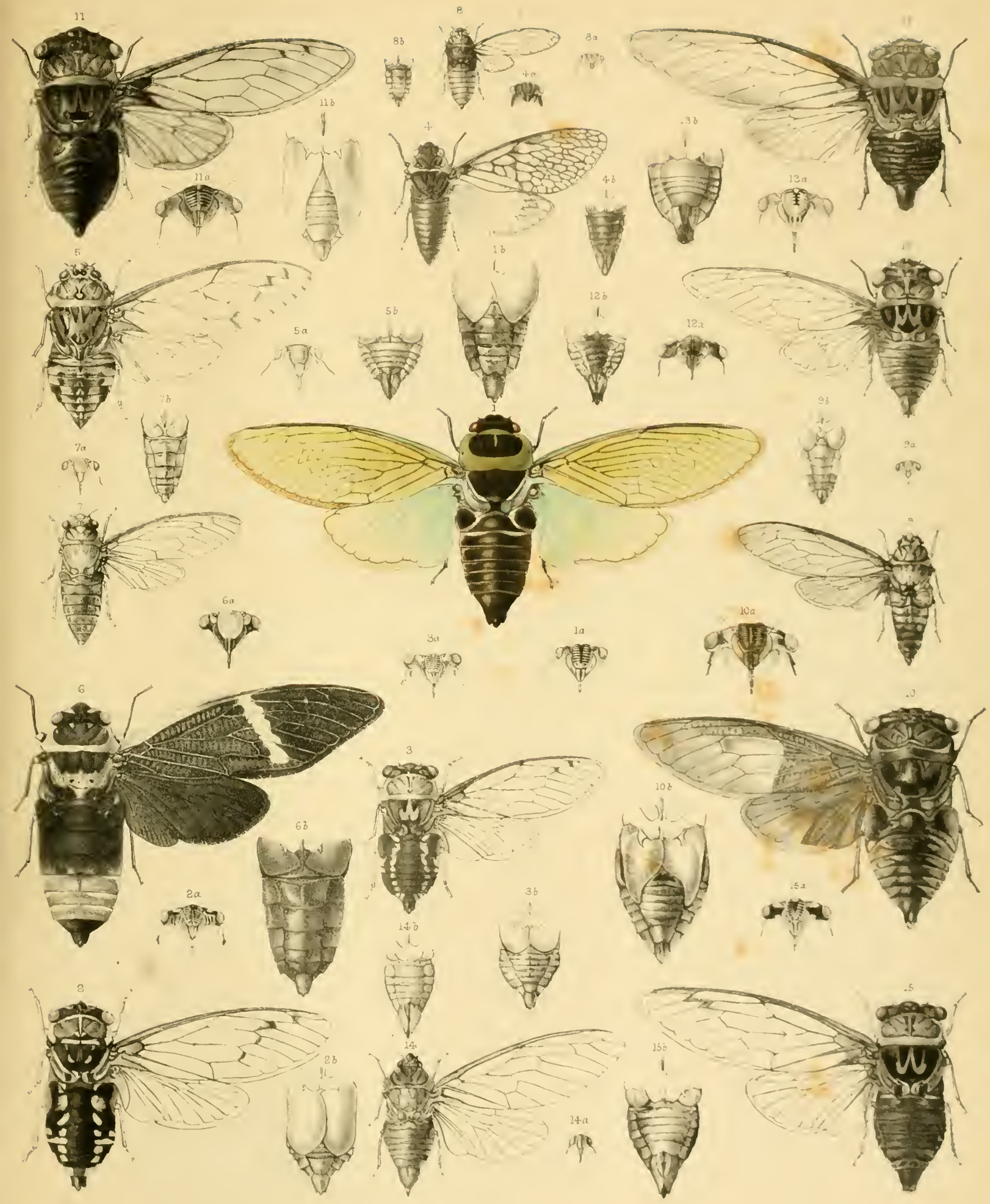
"Fronte lævi, sulco longitudinali rugisque transversis destituta; thorace anterius capiteque æque latis, illius lateribus parallelis, inermibus, postice ampliatis; tegminibus alisque vitreis, venis nigris, basin versus flavo-ferrugineis, spatio inter venam postcostalem et ramum ulnarem postcostalem ferrugineo, opaco, a basi versus medium sensim ampliato, pone medium augusto, sensim angustato."

"♂. Long. 14, exp. tegm. 39 mill."

"♂. Operculis pallide flavescentibus, basi nigris, fere æque longis ac latis, apice rotundatis, distantibus, spatio inter opercula tertiam partem latitudinis operculorum efficiente; segmento dorsali ultimo apice acuminato, angulis posticis in lobum sensim angustatum, breviusculum productis; segmento ventrali penultimo triangulari, subæquilatero, apice rotundato, segmento ultimo obovato, mediocri, segmento penultimo vix longiore."

"Fronte lævi insignis et ab omnibus mihi cognitis congenericis divergens. Quoad structuram tegminum directionem venarum et formam arearum *M. Mnemæ* Walk. similis, sed spatio inter venam postcostalem et ramum ulnarem postcostalem ante medium latiore, pone medium sensim magis angustato. Caput nigrum, macula triangulari basali verticis apice jugorum, frontis parte sursum vergente marginibusque lateralibus, vitta media vel lineis duabus mediis clypei sordide flavescentibus. Rostrum flavo-ferrugineum, apice nigrum. Thorax ferrugineus, impressionibus disci nigris, limbo postico et laterali nec non vitta media posterius abbreviata, antice posticeque nigro-marginata, flavescentibus. Scutellum flavo-ferrugineum, maculis duabus basalibus mediis subobtriangularibus, vitta laterali retrorsum angustata, posterius abbreviata, nec non litura media, formam signi ⌊ fere referente nigris. Abdomen rufum vel ferrugineo-rufum, segmento primo supra subtusque nec non limbo basali utrimque abbreviato segmentorum dorsalium nigris, segmento dorsali primo postice maculis duabus transversis rufis. Pedes ferrugineo-flavescentes, femoribus anticis nigro-vittatis et subtus spinis tribus magnis nigris armatis, spina subapicali ipsa antice spinula armata."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).



West, Newman & Co. Hatton Garden, London, E.C.

Genus PRASIA.

Prasia, Stål, Trans. Ent. Soc. Lond. ser. 3, vol. i. p. 574 (1863).

As all the specimens of this genus in my own collection are of the female sex, and Stål's description was founded on female specimens in the British Museum, I have thought it best to give the original generic diagnosis.

"Caput parvum, thoracis antico haud latius, vertice angusto; fronte compressa, valde prominente, basin versus angustata. Antennarum articulus primus elongatus. Thorax postice quam antice latior, margine antico utrimque leviter elevato, subrecto, limbo postico angusto, angulis basalibus retrorsum leviter productis. Tegmina vix marginata, areolis apicalibus octo, venis ulnaribus basi distantibus, anastomosibus duabus exterioribus opposite obliquis. Alæ angustissime marginatæ, areolis apicalibus sex."

"Cystosomati* affino genus."

To the above description may be added the male characteristic of having the abdomen considerably dilated.

Prasia is a genus, according to present knowledge, quite confined to the Malayan Archipelago. Its species are rare in collections, and those of the male sex are particularly scarce.

1. Prasia faticina. (Tab. VII., figs. 14, *a*, *b*.)

Prasia faticina, Stål, Trans. Ent. Soc. Lond. ser. 3, vol. i. p. 574 (1863).

"Pallidissime subolivaceo-flavescens; tegminibus alisque sordide hyalinis, illorum margine costali ultra medium albido; thorace antrorsum sensim angustato. ♀."

Long. 28, exp. tegm. 80 mill.

"Vertex oculo transverso nonnihil latior. Ocelli postici inter se et ab oculis æque longe distantes. Thorax ab apice retrorsum sensim ampliatus, postice quam antice circiter duplo latior, marginibus lateralibus, rugæ crassiusculæ instar, prominulis. Tegmina abdomine duplo longiora, areis apicalibus quarta, quinta, sexta et septima longissimis, tertia prima et octava nonnihil longiore, secunda omnium brevissima, area basali interna apice sat acuta. Femora antica subtus trispinosa, spina subapicali minutissima, subbasali nutante, reliquis majore."

Hab.—Malayan Archipelago: Celebes (Brit. Mus.; Beccari—Genoa Mus.).

The female type in the British Museum, and another Celebesian specimen of the same sex belonging to the Genoa Museum, constitute my sole knowledge of this species.

2. Prasia princeps. (Tab. XIII., figs. 14, *a*, *b*.)

Prasia princeps, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. ii. p. 325 (1888).

♀. Pale olivaceous-green. Head with the eyes and the apex of the front infuscated; the ocelli and the lateral margins of the pronotum more or less ochraceous; anterior tibiæ and tarsi brownish.

Tegmina very pale ochraceous or olivaceous and subhyaline; the costal membrane and the venation ochraceous. Wings pale hyaline.

Long. excl. tegm. ♀, 28 millim. Exp. tegm. 90 millim.

* *Cystosoma* is an Australian genus, in which the abdomen of the male sex is much inflated.

This species is allied to *P. faticina*, Stål, but differs by its much greater size and distinct coloration, and also by the different arrangement of the venation to the tegmina, most notably in the size and shape of the apical areas.

Hab.—Malayan Archipelago: North-east Celebes (coll. Dist.).

3. Prasia hariola. (Tab. VII., figs. 16, *a*, *b*.)

Prasia Hariola Stål, Trans. Ent. Soc. Lond. ser. 3, vol. i. p. 574 (1863).

"Griseo-straminea; tegminibus alisque sordide hyalinis, illorum margine costali ultra medium albido; thorace utrimque distincte sinuato. ♀."

"Long. 21, exp. tegm. 60 millim."

"Præcedenti* similis, minor, forma thoracis mox distinguenda. Vertex oculo transverso paullo latior. Ocelli postici inter se quam ad oculos paullo magis approximati. Thorax margine antico subelevato, lateribus obtusissimis, fere ab apice ad medium parallelis, dein postice subito ampliatis. Tegmina areolis apicalibus prima, tertia, quarta, quinta et sexta longissimis. Femora antica subtus apicem versus bispinosa (spina tertia subbasali læsa?)."†

Hab.—Malayan Archipelago: Mysol (coll. Stål.); New Guinea (D'Albertis—Genoa Mus.).

4. Prasia fatiloqua. (Tab. VI., figs. 2, *a*, *b*.)

Prasia fatiloqua, Stål, Öfv. Vet.-Ak. Förh. 1870, p. 718, n. 1.

This species is only known to me by a typical male specimen kindly lent for illustration by Dr. Aurivillius, of the Stockholm Museum, and I append Stål's original description.

"Pallide olivaceo-virescens, tegminibus sub-concoloribus, pellucidis; scutello postice medio sub-ampliato, metanoto medio pone apicem scutelli prominulo et medio rugoso-elevato."

"♂. Long. 19, exp. tegm. 60 mill."

"♂. Abdomine inflato, operculis nullis; segmento dorsali ultimo angulis apicalibus in processum subcurvum productis; segmento ventrali penultimo transverso, posterius rotundato et medio subtruncato; segmento ultimo obovato mediocri."

"*P. hariolæ* simillima, ocellis minoribus, vertice latiore, oculis fere duplo latiore, fronte basi latiore, scutello basi medio nonnihil producto et subdepresso, areis apicalibus plurimis tegminum brevioribus, area ulnari interiore (quinta) apicem versus sensim nonnihil ampliata anastomosibusque curvatis differt."

Hab.—Malayan Archipelago: Philippine Isles (Semper—Stockh. Mus.).

5. Prasia foliata. (Tab. XV., figs. 12, *a*, *b*.)

Cephaloxys foliata, Walker, List Hom. Suppl. p. 37 (1858).
Prasia foliata, Stål, Öfv. Vet.-Ak. Förh. 1862, p. 483.

"*Male*. Testaceous. Head with the front porrect, triangular, acute. Prothorax much broader than the head; border narrow behind, broader on each side. Abdomen broader than the thorax. Fore wings testaceous, somewhat opaque, slightly convex in front; first transverse vein slightly undulating, very oblique, but not in the usual direction; second very oblique, much curved, twice the length of the first, from which it is parted by full its own length; third oblique, curved; fourth nearly straight, very slightly oblique. Hind wings vitreous."

"Length of the body 8 lines; of the wings 20 lines."

Hab.—Malayan Archipelago: Celebes (Mad. Pfeiffer—Brit. Mus.); Sangir (Doherty—coll. Dist.).

The figure is taken from Walker's type in the British Museum.

* *P. faticina*.

† I did not detect a third subbasal anterior femoral spine in the female specimen from New Guinea which passed through my hands.

Genus LEMBEJA.

Lembeja, Distant, *ante*, p. 103 (1892).
Perissoneura, Dist. (nom. preocc.) Proc. Zool. Soc. 1883, p. 189.

♀. Head triangular, the front prominently and subacutely produced; the vertex with the lateral margins slightly convex behind the eyes and prominently produced in front of the eyes. Pronotum at posterior angles about twice as broad as anterior margin; the posterior angles ampliated, deflexed to base of tegmina, and broadly rounded at apices. Abdomen above distinctly and longitudinally raised and carinate. Face very prominent, strongly compressed and wedge-shaped, concavely narrowing on its apical half. Rostrum reaching the intermediate coxæ. Tegmina elongate; the costa very slightly depressed immediately beyond base, and then slightly raised and convex from about the apex of upper ulnar area; the interior ulnar area with the apex slightly but distinctly broader than base; the space between the apices of the postcostal vein and the postcostal ulnar ramus ampliated, and the costal margin very finely hirsute; apical areas eight, the eighth broadest and shortest; an additional curved and rudimentary vein connecting the base of the second and the apex of the fifth ulnar areas: this vein is distinct and perfect for a short distance from the base of the second and into the third ulnar areas, after which it is subobsolete; basal area almost twice as long as broad.

♂. Abdomen inflated; tegmina shorter than in female; tympana totally uncovered; operculæ rudimentary.

Since I founded this genus on a Celebesian species, two other species have been described by Dr. Karsch, one from Port Moresby in New Guinea, and the other from Thursday Island in Torres Straits. These habitats at present constitute our knowledge of the geographical distribution of *Lembeja*, and two of the three species are included in our restricted fauna.

1. Lembeja maculosa. (Tab. VII., figs. 13, *a*, *b*.)

Perissoneura maculosa, Distant, Proc. Zool. Soc. 1883, p. 190, t. 25, figs. 3, *a*, *b*, ♀; Karsch, Ent. Nachricht xvi. p. 190 (1890).

♀. Pale ochraceous or greenish; ocelli castaneous; mesonotum with two central obconical dark spots, the bases of which rest on anterior margin; on each side of these is a much longer and more acutely pointed spot, and a small round spot in front of each anterior branch of the cruciform basal elevation, which is marked by two central darker lines; abdomen above sparingly pilose, the apical segmental margins paler. Body beneath and legs pale ochraceous or greenish; femora near apices, tibiæ near bases and at apices, and apices of tarsi, fuscous. Rostrum with the apex pitchy.

Tegmina and wings pale hyaline, the first minutely spotted along all the veins and more or less across its apical half.

Long. excl. tegm. ♀, 18 millim. Exp. tegm. 56 millim.

Hab.—Malayan Archipelago: Celebes (Meyer—Dresden Mus.); Kandari (Beccari—Genoa Mus.).

The male specimen figured was obtained by Dr. Beccari, and is in the Genoa Museum. The female specimen on which the description is based formed part of the Celebesian collection of Dr. Meyer, and is contained in the Museum at Dresden.

Species known to the writer by description only.

2. Lembeja paradoxa.

Perissoneura paradoxa, Karsch, Ent. Nachricht. xvi. p. 192 (1890).

"Gelbbraun, unregelmässig dunkelfleckig; die Deckflügel hyalin, beim ♂ schwäcker, beim ♀ dichter und dunkler braun betupft, die Adern gelblich, beim ♂ schwach, beim ♀ deutlich dunkel fleckig; Hinterflügel glashell mit gelben Adern; beide Flügelpaare am freien Ende zugespitzt, die Spitze selbst stumpf, der Hinterrand der Decken nach der Spitze zu gerundet, nicht gebuchtet."

"Körperlänge des ♂ 19 mill., des ♀ 18,8; Deckenlänge des ♂ 24,5 mill., des ♀ 25 mill., höchste Deckenbreite beim ♂ 9,8 mill., beim ♀ 9; Deckenspannung beim ♀ 54,6 mill."

"Nach 9 übereinstimmenden ♂ ♂ und 1 einzelnen ♀."

Hab.—Malayan Archipelago: New Guinea, Port Moresby (Dr. O. Finsch—Berlin Mus.).

Genus BÆTURIA.

Bæturia, Stål, Hem. Afr. iv. p. 9 (1866); Berl. Ent. Zeit. p. 172 (1866).

Body robust. Abdomen distinctly inflated in the male sex. Head including eyes narrower than the base of the mesonotum; ocelli about as wide apart from eyes as from each other; eyes large, oblique, and prominent; front broad and obtusely convex. Pronotum with the lateral margins non-ampliated, the posterior lateral angles ampliated and rounded. Metanotum distinctly produced and visible. Tympanal coverings absent, the tympana entirely exposed and uncovered. Anterior femora robust and strongly spined. Opercula short, somewhat rudimentary, not covering the sonorous cavities. Tegmina and wings hyaline; tegmina with eight apical areas, the seventh area longer than the eighth; interior ulnar area with the base and apex about equally broad, its anterior margin slightly convex; basal cell considerably longer than broad.

The Malayan Archipelago is clearly the head-quarters of this genus, which is also probably largely represented throughout the Pacific region.

1. Bæturia conviva. (Tab. XIV., fig. 25, *a*, *b*.)

Cicada conviva, Stål, Stett. Ent. Zeit. 1861, p. 152; Öfv. Vet.-Ak. Förh. 1863, p. 483.
Tibicen conviva, Stål, Ann. Soc. Ent. Fr. ser. iv. vol. i. p. 618 (1861).
Bæturia conviva, Stål, Berl. Ent. Zeit. x. p. 172 (1866).
Cicada quadrifida, Walk. Journ. Linn. Soc., Zool. vol. x. p. 93, n. 26 (1867).
Cicada parallela, Walk. Journ. Linn. Soc., Zool. vol. x. p. 94, n. 27 (1867).

♂. Body and legs pale ochraceous; eyes brownish-ochraceous; pronotum with four subobsolete obconical pale castaneous spots, the central pair shortest (these spots in some specimens are altogether wanting); abdomen above with either a well defined or subobsolete series of central and lateral fuscous spots; abdomen beneath with the posterior segmental margins darker ochraceous.

Tegmina and wings pale hyaline, the venation, costal membrane, and post-costal area of tegmina ochraceous.

The rostrum reaches the intermediate coxæ; the face has a very distinct central longitudinal sulcation and coarse transverse striations.

Long. excl. tegm. ♂, 15 to 18 millim.; ♀, 16 millim. Exp. tegm. ♂, 40 to 47 millim.; ♀, 47 millim.

Hab.—Malayan Archipelago: Timor (coll. Dist.); Bouro (Bruss. Mus.); Amboina (Beccari—Genoa Mus. & coll. Dist.); Suyckerbuyk (Bruss. Mus.); Ceram (Brit. Mus.); Batchian (Stockh. Mus. & coll. Dist.); Ternate (coll. Sign.); Aru (Beccari—Genoa Mus.); New Guinea (coll. Dist.); Duke of York Island (coll. Dist.).

By the good offices of Dr. Aurivillius, I have been able to examine a typical specimen of this species, and find it not conspecific with *B. exhausta*, Guér., as opined by Stal.

2. Bæturia exhausta. (Tab. XV., figs. 13, *a*, *b*.)

Cicada exhausta, Guérin, Voy. Coquille, Ins. p. 181, t. 10, f. 6 (1830).
Cicada hastipennis, Walk. List Hom., Suppl. p. 30 (1858).
Dundubia parabola, Walk. Ins. Saund., Hom. p. 6 (1858).
Cephaloxys dilectus*, Stål, MS. (in Brit. Mus.).

♂. Body and legs pale ochraceous (probably greenish in freshly caught specimens).

Tegmina and wings pale hyaline, the venation ochraceous; the venation of the tegmina sometimes more or less marked with dark fuscous and becoming fuscous at the apical areas.

Closely allied to the preceding species, but larger, and also distinguished by the base of the third apical area to the tegmina being situate a little before the base of the first area, whilst in *B. conrira* the bases of these areas are opposite to one another.

Long. excl. tegm. ♂, 21 to 23 millim. Exp. tegm. 52 to 60 millim.

Hab.—Malayan Archipelago: Bouro (Guérin & coll. Dist.); Ceram (Mad. Pfeiffer & Wallace—Brit. Mus.); Amboina (Wallace—Brit. Mus.); New Guinea (coll. Dist.).

3. Bæturia obtusa. (Tab. XV., figs. 14, *a*, *b*.)

Cephaloxys obtusa, Walker, List Hom., Suppl. p. 37 (1858).

♂. Body above green; body beneath and legs pale green; abdomen, disk of sternum, anterior tibiæ and all the tarsi, ochraceous.

Tegmina and wings pale hyaline, the venation pale greenish; tegmina with the post-costal area more or less ochraceous.

Long. excl. tegm. ♂, 14 millim. Exp. tegm. 33 millim.

Hab.—Malay Peninsula: Penang (coll. Dist.). Malayan Archipelago: Sumatra (Forbes—coll. Dist.). Java (Brit. Mus.).

4. Bæturia beccarii. (Tab. XIV., figs. 27, *a*, *b*.)

Bæturia beccarii, Distant, Ann. Mus. Civ. Genoa, ser. 2a, vol. vi. p. 521 (1888).
—— *famulus*, Stal, MS. (in Brit. Mus.).

Closely allied to the preceding species, *B. obtusa*, Walk., but differing by its larger size, by the longitudinal veins to the radial areas of the tegmina being continuous and nearly straight, not obliquely angulated as in *B. obtusa*, and by having the upper margin of the lower ulnar area slightly convex.

Long. excl. tegm. ♂, 11 millim. Exp. tegm. ♂ & ♀, 40 to 45 millim.

Hab.—Malayan Archipelago: Sumatra, Mt. Singalang (Beccari—Genoa Mus.): S.E. Borneo (coll. Dist.); New Guinea (coll. Dist.).

* This was probably arranged under the genus *Cephaloxys* by Walker, as it is not reasonable to suppose that Stal would have been in ignorance of his own genus *Bæturia*.

Species known at present by the female sex only.

5. **Bæturia innotabilis.** (Tab. XV., figs. 15, *a*, *b*.)

Cicada innotabilis, Walker, Journ. Linn. Soc., Zool. vol. x. p. 93, n. 23 (1867).

"*Female*. Testaceous. Ocelli encircled with black. Face with transverse black lines along each side. Prothorax with the sutures of the segments mostly black. Mesothorax piceous, with seven green stripes; middle stripe and inner pair much abbreviated hindward. Fore tibiæ with two stout acute spines. Wings pellucid; veins black, tawny towards the base; costa tawny."

"Length of the body 10 lines; of the wings 27 lines."

Hab.—Malayan Archipelago: Morty (Wallace—Brit. Mus.).; Batchian (Doherty—coll. Dist.).

This species is only known to the writer by the female type in the British Museum, which is here figured, and by two female specimens from Batchian in my own collection; Walker's original description is reproduced above.

6. **Bæturia subnotata.** (Tab. XV., figs. 16, *a*, *b*.)

Cicada subnotata, Walker, Journ. Linn. Soc., Zool. vol. x. p. 93, n. 24 (1867).

"*Female*. Testaceous. Head with a black point on each side between the eyes; face with a black stripe. Prothorax with four lanceolate black marks on each side of the sutures, the fourth or most exterior pair larger than the others. Mesothorax with a transverse black dot on each side near the hind border. Abdomen with a row of short transverse brown streaks on each side. Wings pellucid; costa and veins of the fore wings red; hind wings with black veins."

"Length of the body 11 lines; of the wings 27 lines."

Hab.—Malayan Archipelago: Batchian (Wallace—Brit. Mus.).

The female type specimen in the British Museum is here figured.

7. **Bæturia stigma.** (Tab. XV., figs. 17, *a*, *b*.)

Cicada stigma, Walker, Journ. Linn. Soc., Zool. vol. x. p. 93, n. 25 (1867).

"*Female*. Brown, testaceous beneath. Head dingy testaceous in front. Prothorax dingy testaceous about the sutures and about the hind border. Mesothorax testaceous about the hind border. Legs testaceous; femora and tibiæ striped with brown; fore femora with three spines. Wings pellucid; veins testaceous; costa of the fore wings with a brown streak at rather beyond two-thirds of the length."

"Length of the body $7\frac{1}{2}$ lines; of the wings 20 lines."

Hab.—Malayan Archipelago: Gilolo (Wallace—Brit. Mus.); Batchian (Doherty—coll. Dist.).

8. **Bæturia bicolorata.** (Tab. XIV., figs. 26, *a*, *b*.)

Bæturia bicolorata, Distant, Ann. & Mag. Nat. Hist. ser. 6, vol. ix. p. 316 (1892).

Head, pronotum, and mesonotum pale greenish; abdomen warm ochraceous, its apex green. Eyes pale fuscous. Head beneath, sternum, and legs pale greenish; abdomen beneath ochraceous. Tarsi ochraceous.

Tegmina and wings pale hyaline, the venation greenish or ochraceous; costal membrane of tegmina and the extreme bases of tegmina and wings pale greenish.

Rostrum reaching the posterior coxæ, with its apex black; anterior femora with three distinct spines.

Long. excl. tegm. ♀, 23 millim. Exp. tegm. 65 millim.

Hab.—New Guinea: Fly River (Austr. Mus., Sydney, & coll. Dist.).

A *Bæturia* of striking bicoloration, of which at present I have only seen two female examples.

Species doubtfully placed in the Genus.

9. **Bæturia? sandaracata.** (Tab. VII., figs. 9, *a*, *b*.)

Bæturia sandaracata, Distant, Ann. Mus. Civ., Genoa, ser. 2a, vol. vi. p. 458, t. iv. f. 4, a, b (1888).

♂. Body above, sternum, and legs pale testaceous; abdomen beneath ochraceous.
Tegmina and wings pale hyaline, the venation and the costal membrane of the first pale testaceous.
The rostrum reaches the intermediate coxæ.
Long. excl. tegm. ♂, 30 millim. Exp. tegm. 72 millim.
Hab.—Burma: Teinzò (Fea—Genoa Mus.).

This species, which is the largest of the genus yet known to the writer, differs in some subgeneric respects from the other species. Thus the seventh apical area of the tegmina is about equal in length to, and not longer than, the eighth area, and the opercula are sufficiently large to cover the sonorous cavities.

B. sandaracata will probably form the type of a new genus, but at present I have left it in *Bæturia*. I have only seen one specimen.

Genus ACRILLA.

Acrilla, Stål, Trans. Ent. Soc. Lond. ser. iii. vol. i. p. 575 (1863).

"Caput parvum, thoracis antico paullo angustius, vertice angusto; fronte plus quam dimidium latitudinis facici occupante, paullo prominente. Antennarum articulus primus brevis. Rostrum coxas intermedias haud superans. Thorax lateribus haud dilatatis. Tegmina non nisi apice angustissime marginata, abdominis apicem haud superantia, venis ulnaribus basi distantibus, areolis apicalibus undecim, areola discoidali venas longitudinales sex postice emittente. Alæ anguste marginatæ, areolis apicalibus septem. Abdomen maris valde inflatum, tympanis detectis, operculis minutis brevissimis. Pedes mediocres, femoribus anticis incrassatis, trispinosis."

"*Chlorocystæ** affine genus."

1. **Acrilla adipata.** (Tab. XV., figs. 18, *a*, *b*.)

Acrilla adipata, Stål, Trans. Ent. Soc. Lond. ser. iii. vol. i. p. 575 (1863).

"Pallide sordide straminea; tegminibus alisque sordide hyalinis, stramineo-venosis. ♂."

"Long. 32, exp. tegm. 60 mill."

"Vertex oculo transverso vix duplo latior, ocellis posticis inter se et ab oculis æque longe remotis. Thorax lateribus obtusissimis, medio et apice æque latus, ante medium utrimque levissime rotundatus, postice subito ampliatus, impressionibus sat profundis, limbo postico angusto. Tegmina costa venaque subcostali contiguis, illa haud dilatata; areola basali interiore versus medium levissime ampliata; areolis apicalibus prima, sexta, septima, octava et nona valde elongatis."

Hab.—Malayan Archipelago: Mysol (Wallace†—Brit. Mus.).

* *Chlorocysta* is an Australian genus.

† The collections at Mysol were actually made by Mr. Wallace's assistant, Charles Allen, Mr. Wallace himself being prevented by untoward circumstances from reaching that island.

SPECIES KNOWN TO THE WRITER ONLY BY DESCRIPTION, AND UNABLE TO BE GENERICALLY IDENTIFIED.

1. Tettigonia conspurcata.

Tettigonia conspurcata, Fabricius, Gen. Ins. p. 298 (1777); Sp. Ins. ii. p. 320, n. 13 (1781); Mant. Ins. ii. p. 267, n. 17 (1787); Ent. Syst. iv. p. 22, n. 20 (1794); Syst. Rhyng. p. 39, n. 30 (1803).

"T. atra elytris basi flavo maculatis, ano flavo."

"Habitat in India. Dr. Fothergill."

This species was quite unknown to Stål, who, in his 'Hemiptera Fabriciana,' vol. ii. p. 116, only enumerates the name, and makes no attempt at generic identification.

2. Cicada ferruginea.

Cicada ferruginea, Olivier, Enc. Méth. v. p. 750, n. 19, t. 112, f. 1 (1790).

Stoll, Cig. f. 86.

Olivier evidently only reproduced Stoll's figure and description, but he supplied the species with a distinctive name. The following is Stoll's description :—

"*La Cigale Chanteuse couleur de Rouille.*"

"Cette grande Cigale a le dessous du corps & les pattes de couleur de Rouille avec des nuances brunes, ainsi qu'elle se montre, par le dessus, dans la représentation. Les Etuis & les Aîles son foncés, mais leurs bords inférieurs clairs transparens."

Hab.—"Elle vient des Indes Orientales."

3. Cicada vacua.

Cicada vacua, Olivier, Enc. Méth. v. p. 757, t. 113, f. 10 (1790).

Stoll, Cig. fig. 58.

The same remarks apply as to the preceding species, and the following is Stoll's description :—

"*La Cigale vuide.*"

"La Tête, le Corps & les Pattes sont noir minime ou de couleur fauve; l'Abdomen est vuide & comme transparent, son dernier anneau est garni de duvet blanc; les Etuis & les Aîles sont transparens comme du verre."

Hab.—"Elle vient du Japon."

4. Cicada clara.

Cicada clara, Motschulsky, Bull. Soc. Nat. Mosc. xxxix. p. 184 (1886).

"Statura et color *C. orni* sed thorace dorso magis nigro. Elongata, attenuata, opaca, fusco-testaceo, capite thoraceque nigris, subtestaceo pictis, hoc lateribus viridi maculatis, pectore atro, pedibus nigris testaceo annulatis; ♂, abdominis segmento penultimo subtus trapezoidale, ultimo attenuato, tympanis transversis femoribus anticis bidentatis."

"♂. Long. corp. 12¼ l.; lat. 5 l.; exp. alar. 31 l."

Hab.—Japan.

SPECIES DESCRIBED BY WALKER, OF WHICH THE TYPES ARE APPARENTLY NON-EXISTENT AND THE DESCRIPTIONS INSUFFICIENT.

I have already had occasion (*ante*, p. 49) to refer to the difficulty which appertains to the identification of Walker's species, without reference can be made to the types in the British Museum or elsewhere. The descriptions are often of a misleading nature, being too frequently based on unimportant characters, with an utter absence of generic apprehension, so that at present, without the whole collection is carefully gone through, one cannot tell whether a specimen bears a Walkerian name or not. This is almost equivalent to the case of an ornithologist who, seeking a name for a Shrike, should have to search through the whole order Passeres before he was certain that his species had not been described. I believe in the family *Cicadidæ* I have made the study of this unnecessary problem, and the following described species?, of which the types either do not exist, or have been incorporated—without notice—with other species of which they were synonyms, may be considered as non-existent and unworthy of further notice:—

1. **Cephaloxys unicolor**, Walker, List Hom. iv. p. 1132 (1852). Recorded as from Java.
2. **Dundubia guttigera**, Walker, Journ. Linn. Soc., Zool. vol. i. p. 83 (1856). Recorded as from Malacca.
3. **Cicada virguncula**, Walker, Journ. Linn. Soc., Zool. vol. i. p. 84 (1856). Recorded as from Malacca.
4. **Dundubia decem**, Walker, Journ. Linn. Soc., Zool. vol. ii. p. 141 (1857). Recorded as from Borneo.
5. **Dundubia duarum**, Walker, Journ. Linn. Soc., Zool. vol. ii. p. 141 (1857). Recorded as from Borneo.

SPECIES WRONGLY ASCRIBED TO THIS FAUNA.

1. **Tibicen auratus.**

Cicada aurata, Walker, List Hom. i. p. 215, n. 168 (1850); Atkins., J. A. S. Beng. vol. liii. p. 230, n. 72 (1885).
Tibicen? auratus, Atkins., J. A. S. Beng. vol. lv. p. 178, n. 64 (1886).

Hab.—Tasmania.

Walker added no habitat to his description of this species, but simply stated "From Dr. Hooker's collection." This misled Mr. Atkinson, who, in his "Notes on Indian Rhynchota," enumerated the species, and stated "Reported from Assam."

On referring to the "Record Book" at the British Museum, I found the specimens on which the species was founded clearly recorded "Purchased at Hooker's sale—from Van Dieman's Land." I have a Tasmanian specimen in my own collection.

APPENDIX.

Tacua speciosa (*ante*, p. 24).

To the synonymy add *Tettigonia gigantea*, Weber, Observat. Entomol. p. 113 (1801).

Tosena sibylla (*ante*, p. 29).

Additional Hab.—Malay Peninsula: Perak (Doherty—coll. Dist.).

Leptopsaltria quadrituberculata (*ante*, p. 31).

Additional Hab.—Malay Peninsula: Perak (Doherty—coll. Dist.).

Pomponia fusca (*ante*, p. 70).

Omit the Hab. "Japan" (see *ante*, p. 102).

Leptopsaltria morrisi (*ante*, p. 101).

Since figured. (Tab. XV., figs. 19, *a*, *b*.)

Cosmopsaltria feæ (*ante*, p. 101).

Since figured. (Tab. XV., figs. 20, *a*, *b*.)

Cosmopsaltria ficulnea (*ante*, p. 102).

Since figured. (Tab. XV., figs. 21, *a*, *b*.)

Pomponia japonensis (*ante*, p. 102).

Since figured. (Tab. XV., figs. 22, *a*, *b*.)

ERRATA.

For **Pomponia ransonetti**, *ante*, pp. 72 and 102, read **P. ransonneti**; and as regards the "Exp. tegm." of same, for 95 millim. read 59 millim. The name and dimensions were correctly given in my original description, but the above misprints of the same unfortunately escaped attention in this volume.

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DESCRIPTION OF PLATES.

TAB. I.

FIG.
1. Pœcilopsaltria subrufa
2. ,, fulvigera
3. ,, nicobarica
4. ,, ciliaris
5. ,, octoguttata
6. ,, hilpa
7. Platypleura repanda
8. Pœcilopsaltria hampsoni
9. ,, andamana
10. ,, semusta
11. Platypleura repanda *var.* assamensis
12. Pœcilopsaltria cœlebs
13. Platypleura nobilis
14. ,, kæmpferi
15. ,, insignis
16. Pœcilopsaltria polita
17. ,, nicobarica *var.* distincta
18. ,, westwoodii

TAB. II.

1. Tosena fasciata
2. ,, ,, *var.*
3. ,, mearesiana
4. ,, melanoptera *var.* albata
5. ,, melanoptera
6. ,, splendida
7. Polyneura ducalis
8. Graptopsaltria colorata
9. Tacua speciosa
10. ,, ,, *var.*

TAB. III.

1. Huechys pingenda
2. ,, sanguinea
3. ,, thoracica
4. ,, incarnata
5. ,, philæmata
6. ,, phœnicura
7. ,, fusca
8. ,, celebensis
9. ,, vidua
10. Tosena dives
11. ,, depicta
12. Gæana octonotata
13. ,, ,, *var.*
14. ,, tenebriscosa
15. ,, stellata
16. ,, delinenda
17. ,, maculata
18. ,, festiva
19. ,, ,, *var.*
20. ,, maculata *var.* consors
21. Graptotettix guttatus
22. Gæana sulphurea

TAB. IV.

1. Dundubia intemerata
2. Cosmopsaltria vibrans
3. ,, mongolica
4. Dundubia rafflesii
5. Cosmopsaltria sita
6. ,, durga
7. ,, spinosa
8. ,, tripurasura
9. ,, radha
10. Dundubia mannifera
11. Cosmopsaltria bocki
12. ,, nicomache
13. ,, larus *var.*
14. ,, nagarasingna
15. ,, latilinea
16. ,, microdon
17. Dundubia mannifera

TAB. V.

FIG.
1. Cosmopsaltria larus
2. ,, opalifera
3. ,, jacoona
4. ,, tavoyana
5. ,, operculissima
6. ,, andersoni
7. Cicada pontianaka
8. Cosmopsaltria lauta
9. ,, oopaga
10. ,, similis
11. ,, umbrata
12. Pœcilopsaltria cervina
13. Cosmopsaltria obtecta
14. Leptopsaltria barbosæ
15. Cosmopsaltria flavida
16. ,, opercularis
17. ,, saturata

TAB. VI.

1. Cosmopsaltria silhetana
2. Prasia fatiloqua
3. Cosmopsaltria spathulata
4. Pomponia singularis
5. Tibicen tener
6. Dundubia rufivena
7. ,, ? ærata
8. Cicada tagalica
9. Cosmopsaltria nigra
10. Pomponia obnubila
11. ,, maculaticollis
12. ,, kama
13. ,, expansa
14. ,, pallidiventris
15. Cosmopsaltria inermis
16. ,, fuliginosa
17. ,, minahassæ

TAB. VII.

1. Cosmopsaltria doryca
2. Cicada germana
3. Cosmopsaltria gemina
4. ,, lata
5. ,, chlorogaster
6. ,, capitata
7. ,, lutulenta
8. ,, majuscula
9. Bæturia? sandaracata
10. Pomponia fusca
11. ,, picta
12. Terpnosia collina
13. Lembeja maculosa
14. Prasia faticina
15. Platypleura badia
16. Prasia hariola
17. Pomponia solitaria
18. ,, lactea
19. ,, scitula
20. ,, ransonneti
21. Terpnosia psecas

TAB. VIII.

1. Cosmopsaltria albostriata
2. Leptopsaltria carmente
3. Dundubia emanatura
4. Cosmopsaltria amicta
5. ,, meyeri [lata
6. Leptopsaltria quadritubercu-
7. ,, tuberosa
8. ,, albiguttata
9. Kamalata pantherina
10. Cosmopsaltria pigafettæ
11. Leptopsaltria samia
12. ,, pryeri
13. Calcagninus picturata
14. Rustia dentivitta

FIG.
15. Calcagninus nilgirensis
16. Pœcilopsaltria sphinx
17. Leptopsaltria nebulinea
18. Pœcilopsaltria canescens
19. ,, basialba
20. ,, bufo

TAB. IX.

1. Dundubia locusta
2. Terpnosia madhava
3. Cosmopsaltria serva
4. Pomponia thalia
5. Terpnosia clio
6. Pœcilopsaltria basi-viridis
7. Pomponia nigristigma
8. Gæana hageni
9. Tosena sibylla
10. Gæana atkinsoni
11. Pomponia bindusara
12. Cosmopsaltria insularis
13. Terpnosia andersoni
14. Pomponia promiscua
15. ,, imperatoria
16. Gymnotympana stridens
17. ,, strepitans

TAB. X.

1. Leptopsaltria mascula
2. Cosmopsaltria junctivitta
3. Pœcilopsaltria calypso
4. Leptopsaltria albiguttata
5. Tibicen lacteipennis
6. Leptopsaltria tigrina
7. Cryptotympana limborgi
8. Pomponia græcina
9. ,, viridimaculata
10. Cryptotympana recta
11. ,, corvus
12. Leptopsaltria andamanensis
13. Pomponia evanescens
14. Cosmopsaltria recedens
15. Leptopsaltria albistigma
16. Cosmopsaltria impar

TAB. XI.

1. Cryptotympana intermedia
2. ,, insularis
3. ,, diomedea
4. ,, fumipennis
5. ,, epithesia
6. ,, sinensis
7. ,, mandarina
8. ,, acuta
9. ,, aquila
10. ,, pustulata
11. ,, facialis

TAB. XII.

1. Dundubia mannifera *var.* terp-
2. Cicadatra quærula [sichore
3. Emathia ægrota
4. Cicada polyhymnia
5. ,, elopurina
6. Karenia ravida
7. Cicadatra rugipennis
8. Cicada bihamata
9. Dundubia mellea
10. Tibicen lacteipennis
11. Cicada coronata
12. Cosmopsaltria montivaga
13. Cicada ochracea
14. Cosmopsaltria dimmuta
15. Tibicen apicalis [sitata
16. Rustia dentivitta *var.* amus-
17. Tibicen subvittatus

FIG.
18. Leptopsaltria tigroides
19. Cicada viridis
20. Leptopsaltria guttularis
21. Cosmopsaltria phæophila

TAB. XIII.

1. Angamiana ætherea
2. Cicada leechi
3. ,, sinensis
4. Talainga binghami
5. Karenia cælatata
6. Tosena montivaga
7. Pomponia translucida
8. ,, pumila
9. ,, dohertyi
10. Cryptotympana accipiter
11. ,, demisitia
12. ,, exalbida
13. ,, tondana
14. Prasia princeps
15. Cicada flammata

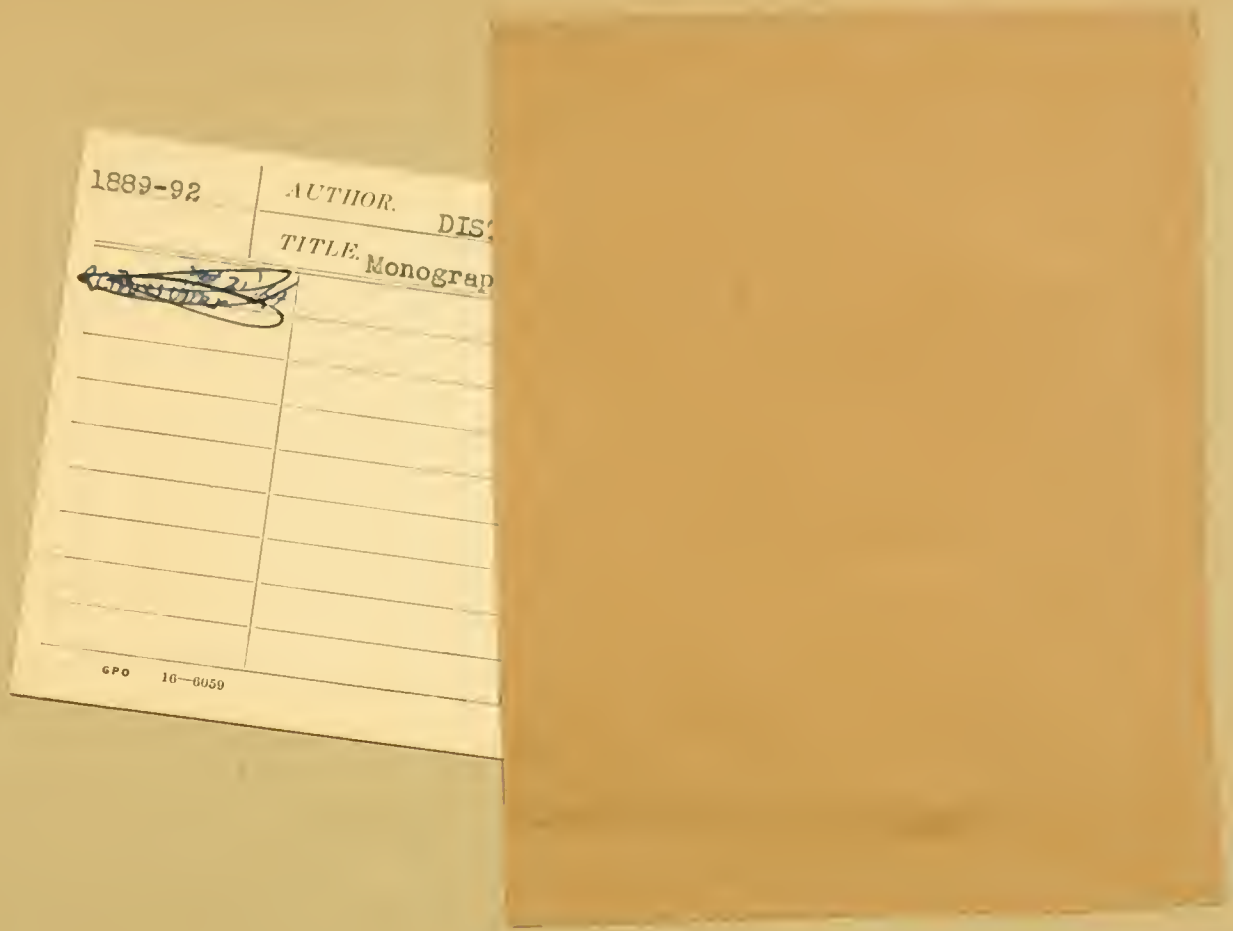
TAB. XIV.

1. Huechys lutulenta
2. ,, dohertyi
3. ,, chryselectra
4. ,, hæmatica
5. Scieroptera splendidula
6. ,, crocea
7. ,, fumigata
8. Mogannia viridis
9. ,, fulva
10. ,, obliqua
11. ,, doriæ
12. ,, sesioides
13. ,, hebes
14. ,, nasalis
15. ,, cyanea
16. ,, effecta
17. ,, funebris *var.*
18. ,, conica
19. Rustia tigrina
20. Tibicen casyapæ
21. ,, reticulatus
22. ,, nanus
23. ,, maculicollis
24. ,, nubifurca
25. Bæturia conviva
26. ,, bicolorata
27. ,, beccarii

TAB. XV.

1. Cicadatra xantes
2. ,, striata
3. ,, acberi
4. Terpnosia nigricosta
5. ,, pryeri
6. ,, stipata
7. ,, maculipes
8. Melampsalta literata
9. ,, continuata
10. ,, pellosoma
11. ,, exæquata
12. Prasia foliata
13. Bæturia exhausta
14. ,, obtusa
15. ,, innotabilis
16. ,, subnotata
17. ,, stigma
18. Acrilla adipata
19. Leptopsaltria morrisi
20. Cosmopsaltria feæ
21. ,, ficulnea
22. Pomponia japonensis

West, Newman & Hiram Knight ad nat.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